R7050-6F

Tax Burden by Income Class 1986 — 1987

Expanded Version, includes:

- ❒ The Cumulative Tax Distribution
- ❒ Results of Alternative Assumptions
- ❒ The Income Concept Explained
- ❒ The Consumer Expenditure Survey Explained
- ❒ Selected Bibliography

A Tax Foundation Special Report

Tax Foundation
One Thomas Circle, N.W., Suite 500
Washington, DC 20005
202-822-9050

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Foreword

Demands to reduce the Federal budget deficit and to keep state and local spending under control sound loud and clear. At the same time, the cry for continuation and expansion of existing government services — as well as for new programs — shows no signs of abating.

Fundamental to balancing these competing voices is an awareness of where public money comes from, how the burden falls upon various income classes, and what types of taxes account for the various income streams flowing to public coffers.

Tax Burden by Income Class 1986-1987 seeks to provide some of those answers. This latest study by the Tax Foundation expands upon earlier research and utilizes the most recent data to analyze how the tax burden is distributed by family income class, by level of government, and by type of tax.

Paul G. Merski, Director of Special Studies for the Foundation, had primary responsibility for the research and drafting of the study. He was assisted by Marion B. Marshall, Information Specialist and Robert S. Logan and Stephanie L. Gould, Research Assistants.

The Tax Foundation is a nonprofit, nonpartisan research and public education organization founded in 1937 to monitor the tax and spending activities of Federal, state, and local governments. Its mission is summed up in the motto: "Toward better government through citizen understanding."

Robert C. Brown
President
Tax Foundation

February 1989

Summary

The distribution of tax burdens by family income class is of major importance to the general public and policy makers, yet the information examining this distribution is quite limited due to the difficulty involved in producing such estimates. The *Tax Burden By Income Class 1986-1987* study prepared by the Tax Foundation helps provide a comprehensive tax burden distribution analysis.

The current demand for increased government services, combined with the severe Federal budget deficit and budgetary problems in numerous states, creates a fiscal environment ripe for revenue enhancement. What types of taxes could be implemented to address these fiscal demands and who will bear their burden? These will be the first questions in any serious consideration of new tax initiatives.

Earlier tax burden distribution results were presented in the Tax Foundation's 1981 study *Allocating Tax Burdens and Government Benefits by Income Class, 1972-73 and 1977.* To assist in understanding who pays the taxes, the Tax Foundation has expanded upon its previous body of research and employed the most recent data available in order to produce the present comprehensive analysis of the tax burden distribution by level of government as well as by type of tax. The detailed study results presented in **Exhibit 7** show the tax burden borne by each family income class for 1986. Provisional 1987 results are presented in **Exhibit A1** of Appendix A.

The overall total tax burden results produced by the study show a generally proportional tax structure, with the exception of families in the lowest and highest income brackets. *Both bear a larger than average tax burden.* Furthermore, the tax burden distribution shows great disparities by income class in absorbing the burden of a specific type of tax.

Not surprisingly, the individual income tax represents the most progressive element of the tax structure; while sales, excise, and payroll taxes prove to be regressive. The major excise taxes examined separately in the study — specifically those on motor fuel, tobacco products, and alcoholic beverages — were the most regressive.

Alternative tax incidence assumptions were analyzed in order to suggest the degree to which the tax burden estimates are affected by the study's choice of assumptions. The alternative assumptions focus on three taxes — the corporate income tax, property taxes, and the employer's share of social insurance taxes.

Examining the difference in effective tax rates caused by using the most progressive and most regressive set of incidence assumptions reveals that *the overall tax burden distribution is not altered significantly.* For the middle classes the difference is minimal, averaging less than a 2% variation. In the lowest income bracket, greater regressivity is seen when the tax incidence is assumed to fall more heavily on consumption. Progressivity is increased in the highest income bracket when taxes are primarily shifted to dividend and property income. For the tax burden as a whole, the differences in effective rates between the two extreme sets of assumptions were relatively small.

Tax Burden By Income Class 1986-1987

Introduction

Federal, state, and local governments collected $1.4 trillion in total tax revenues in 1987, almost $16,000 per household, and representing over 30% of the nation's total output of goods and services. Despite a 6.4% increase in Federal tax collections in FY 1988, the Federal government was left with a $155 billion budget deficit. State and local governments witnessed an 8% total tax increase in FY 1988; however, many large states ended the year with severe revenue shortfalls. California, Connecticut, Massachusetts, and New York, for example, all saw revenue shortfalls ranging from $250 million to over $1 billion in calendar year 1988.

Despite an increasing total tax burden, major revenue shortfalls at all levels of government have intensified pressure to raise taxes or cut spending in order to reduce the red ink in government accounts. The dominant motive behind most recently enacted tax legislation has been purely and simply to raise dollars. Revenue enhancement will certainly be part of the future picture, particularly when addressing a stubborn Federal budget deficit which now represents over 3% of gross national product (GNP).

It is of obvious importance for individuals and policy makers to understand clearly how the tax burden affects households of various income levels in order to approach any tax modifications equitably and efficiently.

Purpose of Study

How much, on average, do families at each income level pay in taxes, hidden as well as direct? What types of taxes impose a greater burden on lower income families or on higher income households? The *Tax Burden by Income Class 1986-1987* study provides answers to such questions. Although other studies of the tax burden by income class are available, this is the first study to be done using comprehensive and detailed 1986 *Consumer Expenditure Survey* data on family income and consumption recently published by the Bureau of Labor Statistics.(1) This study expands upon earlier tax burden analysis presented in the Tax Foundation's 1981 study *Allocating Tax Burdens and Government Benefits by Income Class, 1972-73 and 1977*.(2)

This report summarizes the results of a detailed analysis of the distributional impact of Federal, state, and local taxes by income class. A further breakdown by type of tax illustrates the tax burden of each tax by income class.

Tax Burden Background

In order to analyze the burden of taxes, it is important first to examine the overall tax structure and relative importance of the different types of taxes within the system. The definition of taxes in this study corresponds to government receipts as defined in the national income accounts.(3) Therefore, a comprehensive account of all taxes and user-fees, direct as well as indirect, is examined in this study.

Exhibit 1 presents total government revenues by level of government and source of revenues. In the study year 1986, total Federal collections of $828.3 billion represented 61.6% of the total tax burden, while state and local collections accounted for $516.2 billion or 38.4%. The source of these revenues varies greatly between the Federal and state/local governmental levels. **Exhibits 2 and 2A** show the percent distribution of revenues by level of government and source. The Federal government relies heavily on individual income taxes and payroll taxes, deriving over 80% of total taxes from these two sources alone. State and local governments depend primarily on sales, excise, and property taxes. Sales and excise taxes represented 28.9% and property taxes accounted for 22.6% of state/local revenues in 1986 **(Exhibit 2)**. Aggregating total tax revenues from all levels of government reveals that the individual income tax represents the largest percentage of total tax collections at 32.0%, followed by social insurance contributions at 28.1%, and sales and excise taxes at 14.4%.

The extent to which a specific type of tax is employed in collecting revenues has a distinct impact on the tax burden for different income classes. To analyze the distributional impact of a tax by income class — whether it is progressive, regressive, or proportional — we calculate the dollar tax payment as a percentage of household income. The tax payment as a percentage of household income, or the **effective tax rate**, defines the term tax burden as it is employed in this study. A tax is said to be progressive, regressive, or proportional if that tax as a percentage of household income rises, falls, or remains constant, as household income rises.

Exhibit 3 provides hypothetical examples of a regressive, a proportional, and a progressive tax. It is important to note that, although the **actual amount** of tax paid under each tax is higher for higher income families, the **effective tax rates** are quite different **(Exhibits 3A, 3B)**.

Methods and Assumptions

A brief outline of the methods and assumptions used in allocating the tax burden by income class for 1986 is presented here. Additional details, alternative assumptions, and provisional 1987 estimates are provided in the Appendices of the full study.

Any estimates of the tax burden distribution require assumptions about the incidence of taxation and the distribution of family income. Even the most complete survey data cannot remove the need for incidence assumptions and judgmental decisions in choosing the appropriate definitions of family income and tax burden. The assumptions used in this study are conventional assumptions consistent with the current body of generally accepted economic research and theory. The results of alternative assumptions are presented in Appendix C.

Meaning of Incidence

Economists label the reduction in family income or purchasing power from paying a tax the incidence of that tax. The estimation of tax burdens borne by families in each income class requires assumptions as to the ultimate incidence of each tax. This is especially true of taxes which are initially imposed on corporations and other employers but which are ultimately borne by individuals in their capacities as consumers, workers, or owners of capital. Though it is clear to most taxpayers that their income is reduced by the taxes they pay directly, many have difficulty in seeing how their income and purchasing power is also reduced by the corporate income tax, the employer's share of Social Security payroll taxes, and some excise taxes.

Although taxes are levied on corporations, manufacturers, retailers, and other employers, these business entities do not pay these taxes in an economic sense. Ultimately they will be paid by individuals, either through reduced returns to shareholders, lower wages to employees, or higher prices to the consumer. Therefore, both direct and indirect taxes can affect the amount of income received by a family and the prices of goods and services purchased by the family. To determine the actual incidence of a tax, it is critical to measure the actual composition of a family's income and expenditure structure.

Method of Allocation

The method of allocation used in this study to estimate the amount of tax borne by a particular income class is to allocate the income group's aggregate amount of taxes in proportion to selected items of family expenditures or income. These "allocations" reflect the study's assumptions as to the incidence of each type of tax and utilize existing theoretical and empirical work in the field.(4) The expenditure and/or income series which constitutes the basis for the allocation by income class is taken from the most recent Bureau of Labor Statistics' *Consumer Expenditure Survey* (CES).(5) The survey data used in this study represent annual averages for calendar years 1985 and 1986 in order to reduce the volatility of extreme income and/or expenditure shifts that might occur in one particular year. Such shifts are especially evident in the highest and lowest income classes. Additional allocation data for individual income, dividend income, and capital gains were taken from recently published 1986 tax return data provided by the Internal Revenue Service.(6)

Bases of Allocation

The bases of allocating each type of tax are shown in **Exhibit 4**. The assumptions involved in the selection of the bases of allocation reflect the purpose of the study, namely, to give a broad picture of the distribution of tax burdens across income classes.

The tax burdens of the individual income tax and of the employee share of Social Security payroll taxes are straightforward. They are assumed to be borne by the individuals paying these taxes and are not shifted. Most economists agree that the families who pay these taxes absorb the full loss in income.(7) Sales taxes and excise taxes are assumed to be shifted forward to the consumer in the form of higher prices. Property taxes are assumed to fall on the owners of property.(8)

Allocating the corporate income tax is more difficult since there is no consensus on its final incidence. This study assumes that one-half of the total corporate income tax is shifted forward in the form of higher consumer prices and the other half is shifted backward to the owners of corporate capital in the form of lower dividends.(9)

On balance, the body of empirical evidence supports the position that employers are able to shift the burden of the Social Security payroll tax; however, whether the tax reduces wages or increases prices has not been clearly determined by empirical research. The employer's share of Social Security payroll taxes in this study is assumed to be passed forward to consumers in the form of higher prices.(10)

Meaning of Income

Just as assumptions and judgements have to be made about the final incidence of taxation, similar assumptions must be made to estimate the actual economic income of the family. Since the comparison of final tax incidence to economic income is the objective of this study, these assumptions are just as important as the ones on the tax side.

A critical initial assumption is how to define a family's economic income. The study's definition does not consist solely of money income to a family, although that is the appropriate starting point. A broader income concept is needed, to correspond with the broad definition of tax burden. The tax burden is considered to consist of taxes levied on businesses as well as taxes paid directly out of "money incomes." Thus, all corporate incomes must be imputed to families - the undistributed portion (retained earnings) as well as dividend payments which are already included in money incomes. In addition, indirect business taxes represent a portion of national output affected by taxation and must also be imputed to families. For the purpose of this study, the income base chosen is net national product (NNP) as defined in the national income accounts.(11)

Once the total income base has been determined, the various components of the base (**Exhibit 5**) must then be allocated according to income class. Family money income is the first and most important item of income, and national income and product account (NIPA) data is used. However, the definition of income to be included in this portion is derived from the Consumer Expenditure Survey (CES). By far the largest component of money income is wages and salaries, accounting for 63% of the $3,325.1 billion money income in 1986. Interest, Social Security and pensions, self-employment income, and public assistance and related forms of income were, in that order, the next largest. Together they made up more than 36% of total money income. The remainder consisted of dividends, rental and other property income, unemployment compensation, and veterans benefits. The CES's distribution of money income to families was used to distribute money income to families by income class.

A number of other elements of personal income, also considered supplemental non-money income, are allocated using bases corresponding to the different income items that they represent. Other labor income is the most significant non-money item, and consists primarily of employer-paid benefits such as health insurance and pension plan contributions. Since these benefits are fundamentally related to wage and salary income, the most appropriate base to allocate these benefits to is wage and salary earnings.

Imputed personal savings items (primarily owner investment in housing) are distributed according to homeowners' housing expenditures, as is net rent of owner-occupied

buildings. Services by financial intermediaries were distributed among income classes by interest, dividend, and other property income.

Since personal contributions for social insurance are not included as part of NIPA personal income, but are part of CES money income, they are subtracted out on the basis of personal insurance contributions in the CES.

The sum of these allocated items is equivalent to the definition of personal income in the national income accounts. The difference between personal income and net national product consists of the excess of pre-tax corporate profits, social insurance contributions, and indirect business (excise, sales, and property) taxes over transfer payments to persons and net interest paid by government and consumers.

Transfer income can be a substantial portion of family income, especially in the lower income classes, and eliminating it from consideration as an income source would tend to underestimate total income in the lower income classes. Also, for purposes of this study, ignoring transfer income can cause an overestimation of the tax burden on lower income families, as taxes such as sales and excises are imputed to these families based upon consumption expenditures that would not be possible without transfer income. The computation of effective tax rates would then be distorted by comparing actual taxes paid with an incomplete income concept based only upon income earned from productive services rather than actual dollar income received. Therefore, the allocation of the net difference between personal income and NNP was made according to the distribution of personal income by income class.(12) The result provides a definition of income that is probably close to the average person's concept of his income and at the same time avoids the overstatement of the effective rate of taxation that would result from using an income base that is too narrowly defined.

The overall breakdown of NNP, shown in **Exhibit 5A**, shows the end result of the income allocation. As could be expected, the middle income classes (between $20,000 and $50,000) accumulate the largest shares of NNP, but with a substantial share in the highest income class, especially considering the smaller number of families falling into this class. The lowest income classes, even after transfer payments are included, still account for only a small portion of national income.

Major Findings

Total Tax Burden

Exhibit 6 presents the total family tax burden by income class and level of government. The overall tax system is roughly proportional, meaning the percentage of income accounted for by taxes is approximately the same for all income levels. Except for the lowest and highest income classes, there is surprisingly little variation in the ratio of taxes to income. The average total tax burden for all taxes is 35.53%, and except for the highest and lowest brackets, no income class deviates from this average by more than 4.25%. The average level of these effective tax rates appears lower than would be expected because of the comprehensive definition of income used in this study.

Federal vs. State/Local Tax Burden

Although the overall tax system is roughly proportional, a distinct difference exists in the distributional patterns of Federal and of state and local tax burdens (**Exhibits 6A, 6B**). Furthermore, a significant variation in tax burdens becomes evident when each type of tax is examined separately. In 1986, 91% of Federal tax revenue came from the individual income, corporate income, and payroll taxes. State and local governments on the other hand relied primarily on general sales, excise and property taxes for the majority of their revenues. It is these differences in revenue sources that create the substantial differences in relative tax burdens at the Federal and state/local levels.

The Federal tax structure is moderately progressive (above the lowest income bracket) and exhibits fairly sharp progressivity in the highest income bracket starting at $90,000 or more in family income. Remember that the base period is 1986 before the rate reductions under the Tax Reform Act of 1986 went into effect. However, the overall net effect of that act on the distribution of Federal income tax burdens was probably not significant, except at the lowest income levels. State and local taxes are moderately regressive overall, but display a slight progressivity in the highest income class. Thus, the general proportionality of the overall tax structure is due to the combination of moderately progressive Federal taxes and regressive state and local total taxes. However, it is important to note that **the highest and lowest income groups absorb a greater portion of the tax burden than the average burden for all income classes in both the Federal and state/local tax structures.**

Overall, Federal taxes impose a larger tax burden than state/local taxes. As presented in **Exhibit 6**, the total burden of Federal taxes averages 21.89% while the state/local burden is 13.64%. Therefore, the total tax burden is roughly a 60%-40% split between Federal and state/local taxation, respectively.

Although the overall Federal tax burden is larger, state/local taxes appear to impose a greater burden on the lowest family income class examined (**Exhibit 6**). In the less than $10,000 income class, the state/local tax burden is 25.80% while the Federal tax burden is slightly less at 23.74%. The higher state/local tax burden in the lowest income group is due primarily to the state and local governments' heavy reliance on sales and excise taxes which prove to be highly regressive. Federal excise taxes, and particularly social insurance taxes, contribute to the greater Federal tax burden of the lowest income group.

Comparison With 1981 Study

The current 1986-1987 tax burden distribution results are not strictly comparable with the previous 1981 study's results due in part to the refined methodologies and updated income brackets employed in the current study.(13) The highest family income bracket examined in the 1981 study was $25,000 and over. In order to present a broader and more representative income distribution, this study expanded the family income brackets to range from $10,000 or less to $90,000 and more. Despite underlying differences in the two studies, some general comparative observations are possible.

The overall total tax burden, as measured by the studies' effective tax rates, has increased from 34.51% to 36.31% between 1972 and 1987. Therefore, the growth in total tax collections has slowly outpaced the growth in total income during this period. Both the Federal, and state/local tax burden has increased. Between 1972 and 1987, the total Federal tax burden increased from 21.53% to 22.65% while the state/local burden increased from 12.98% to 13.67%.

Although we have witnessed an increase in the total tax burden, the overall distribution remained quite similar between 1972 and 1987. The overall tax system remains roughly proportional. However, the highest and lowest income classes continue to bear a higher tax burden than the average.

Tax Burden by Major Type of Tax

Exhibit 7 presents the major findings of the study. Here the tax burden as a percentage of family income is examined by level of government as well as by major type of tax. The nature of each type of tax (i.e., whether it is progressive, regressive, proportional, or a combination of these elements) is revealed for each of the family income classes. Substantial variations in the tax burden distribution become evident when each type of tax is examined separately. For example, the individual income tax burden of the $90,000 or more income group

is nine times greater than that of a family in the lowest income class. Conversely, the gasoline tax burden is almost ten times greater for the lowest income group than for the highest income families. Given the great disparity in the distribution of the tax burden resulting from different types of taxes, the extent to which a certain tax is used can severely affect the tax burden for families within a particular income group.

The Progressive Elements

Individual Income Taxes

The Federal individual income tax represents the major progressive portion of the tax structure, ranging from 2.32% of income for the lowest income group to 25.18% for families in the highest income class. Combined with state and local collections, total individual income taxes represent approximately one third of all government revenues and are thus responsible for the most progressive element within the entire tax structure (**Exhibit 8**). Compared to the average income tax burden of 11.37% for all classes, the highest income families' burden is almost two and one half times greater, while the lowest income groups' burden is almost four times lower than the average burden.

The Generally Proportional Elements

Corporate Income Tax

The corporate income tax burden appears, on the basis of allocation used here, to be lowest on families in the income range from $30,000 to $60,000.(14) At the highest income levels, the concentration of dividends income makes the burden progressive on the assumption that half of the tax falls on shareholders (**Exhibit 9**). Bureau of Labor Statistics and Internal Revenue Service data indicate that dividend income is a significant source of income in the higher income brackets.(15)

The assumption that half of the corporate tax burden is shifted forward in the form of higher consumer prices results in a regressive tail on the corporate tax burden distribution (**Exhibit 9**). Consumption expenditures represent a greater portion of income for lower income families, thus forcing them to absorb a larger portion of the corporate tax burden shifted to consumption goods.

Property Taxes

Property taxes are employed by state and local governments and represent approximately 23% of their total revenues (**Exhibit 2**). Although there exists a wide variation in rates and in the definition of taxable property, generally the tax is levied on the assessed value of real property, including land, homes, buildings, and equipment owned by businesses. The property tax burden ranges from 5.58% of income for the lowest income families to 3.76% for the highest income group. The property tax burden appears, on the basis of the allocation used here, to be lowest on families in the income range from $20,000 to $60,000 (**Exhibit 10**). Both the lowest income bracket, at 5.58%, and the highest bracket, at 3.76%, absorb a somewhat larger property tax burden than the average tax burden of 3.08% (**Exhibit 7**). This distributional result is explained by the greater proportion of income spent on housing in the lowest income class and the larger concentration of property income in the highest income class.(16) Except for the lowest income class, the property tax appears to be the most generally proportional tax of the major taxes in this study.

The Regressive Elements

Sales and Excise Taxes

Sales and excise taxes represent the third largest source of revenue for all governments and remain the most regressive element within the entire tax system. Sales taxes examined in this study are primarily state and local general sales taxes levied on a broad list of goods and services. They are assessed as a percentage of the price paid by the consumer for a good or service. Excise taxes are levied on specific products by all levels of government. Although excise taxes affect hundreds of products and services, the major revenue raising excise taxes are levied on gasoline, tobacco products, alcoholic beverages, and telephone and telegraph services.

In 1986, sales and excise taxes alone raised $180 billion in government revenues

(Exhibit 1). Sales and excise taxes are clearly regressive throughout the entire income scale ranging from 13.11% of income for families with less than $10,000 in income to only 2.56% of income for families with incomes of $90,000 or more **(Exhibits 7 and 11)**. Numerous tax burden studies reiterate and reinforce the conclusion that sales and excise taxes are regressive.(17) A recent Congressional Budget Office study concluded that the 1988 effective rate of Federal excise taxes alone is estimated to be over eleven times greater for families in the lowest income bracket than for families in the highest income group.(18)

The reason why sales and excise taxes are regressive is straightforward. The proportion of family income spent on goods and services subject to these taxes falls as income rises. For example, consumer expenditure survey data reveal that families with incomes over $90,000 spend approximately 1% of their income on gasoline while families with incomes of less than $10,000 spend an average of 11% of their income on gasoline. Therefore, any excise tax on gasoline would clearly take a bigger portion of income from a low-income family than from a high-income family.

Excise Taxes

All of the major excise taxes examined in this study are highly regressive and are borne disproportionately by low income taxpayers. Excise taxes on tobacco products and alcoholic beverages create an extremely disproportionate tax burden on the lowest income families. The tax burden imposed by the alcoholic beverage excise tax is almost five times greater for the lowest income class than for the highest, and the tobacco products tax burden is over 22 times greater for low income families than for the highest income families. **Exhibits 12 and 13** present the tax burden by income class for sales, alcohol, tobacco and gasoline taxes. Combined, these four taxes alone absorb almost 10% of the income of the lowest income families while representing less than 2% of income for families in the highest income class.

Social Insurance Taxes

Total contributions for social insurance, which include both personal and employer contributions, show a mildly regressive pattern throughout most of the income distribution which becomes more regressive at the lowest and highest family income levels **(Exhibit 14)**. Old-age, survivors, disability, and hospital insurance (OASDHI) — commonly known as social security — make up the largest portion, over 70% of total social insurance contributions. Social security taxes are levied at a flat rate up to a maximum amount of annual taxable earnings. Under the study's standard assumptions, the personal social insurance contributions are allocated by actual reported payments and show a humped tax burden distribution across the income classes **(Exhibit 14A)**. The rise in the social insurance tax burden above the lower income ranges is due in part to the increased numbers of taxable earners per family. The decrease at the higher income levels is due partly to the maximum salary and wage income level at which the tax may be imposed.

The burden of the employer's share of social insurance contributions (employer payroll taxes), while less direct, is assumed to be shifted forward to consumers in the form of higher prices under the study's standard assumptions.(19) Given the higher proportion of income spent on consumption in the lowest income classes, the employer's share of social insurance taxes are regressive and are borne disproportionately by families in the lowest income group **(Exhibit 14B)**.

Tax Burden of High vs. Low Income Families

Exhibit 15 presents a summary breakdown of the tax burden for the lowest, highest, and average family income classes by level of government and type of tax. The total tax burden is roughly proportional, with an average burden of 35.53%. However, both the lowest and highest income classes absorb a greater total tax burden at 49.54% and 51.59%, respectively.

The reason for this disparity becomes evident when examining the burden of each type of tax separately. Column I of **Exhibit 15** compares the actual tax burden by each type of tax for the low, high, and average income classes. On total, the lowest income group's largest tax

burdens are from sales and excise taxes as well as social insurance contributions and property taxes. The highest income group appears to bear the most burden from the individual income tax, the corporate income tax, and property taxes.

Column II of **Exhibit 15** shows the percent difference between the tax burden of the lowest and highest income classes. For example, the Federal individual income tax burden is almost eleven times greater for the highest income group than for the lowest while the Federal tobacco tax burden is over twenty-two times greater for the lowest income group. In total, the sales and excise tax burden is over five times greater for the lowest income families than for the highest. Examining these taxes separately shows that the general sales tax burden is over four times higher for the lowest as compared to the highest; alcohol, almost five times; tobacco, twenty-two times; gasoline, ten times; and the telephone tax burden, eleven times higher for the lowest income class than for the highest. Conversely, the individual income tax, which represents the major progressive portion of the entire tax system, imposes a tax burden almost nine times greater for the highest income bracket than for the lowest. The extent to which a specific type of tax is applied can clearly result in a pronounced tax burden effect on a particular income class, a phenomenon which is substantiated in the study.

Footnotes

(1) U.S. Department of Labor, Bureau of Labor Statistics; Consumer Expenditure Survey (CES) results from 1986. The CES is explained in detail in Appendix E.

(2) See selected bibliography in Appendix F under Tax Foundation, Inc. for previously published tax burden research.

(3) Published and unpublished data, U.S. Department of Commerce, Government Division, Bureau of Economic Analysis and Survey of Current Business, Vol. 68, No. 7, July 1988.

(4) For significant tax incidence research see selected bibliography in Appendix F.

(5) Published and unpublished data, U.S. Department of Labor, Bureau of Labor Statistics; Consumer Expenditure Survey (CES) results from 1986. The CES is explained in detail in Appendix E.

(6) Published and unpublished data, U.S. Department of Treasury, Internal Revenue Service and Statistics of Income, Vol. 7, No. 3; Winter 1987-1988.

(7) These taxes may be partially shifted among families if they reduce the total supply of labor or savings.

(8) Alternative assumptions are presented in Appendix C.

(9) Alternative assumptions in Appendix C also examine shifting part of the corporate income tax backward to workers in the form of lower wages.

(10) Alternative assumptions are presented in detail in Appendix C.

(11) U.S. Department of Commerce, Bureau of Economic Analysis. Data from the detailed National Income and Product Accounts (NIPA), Survey of Current Business, Vol. 68, No. 7, July 1988. Further detail of the income concept used is presented in Appendix D.

(12) The difference between personal income and net national product is equal to the excess of non-personal taxes and undistributed profits over government transfers and interest payments.

(13) Previous study: Tax Foundation, Inc. Allocating Tax Burdens and Government Benefits by Income Class, 1972-1973 and 1977. (Government Finance Brief No. 31) Washington, D.C.: 1981.

(14) Alternative allocation assumptions in Appendix C present the most regressive and progressive results.

(15) Bureau of Labor Statistics, Consumer Expenditure Survey (CES) results from 1986. Internal Revenue Service, Statistics of Income, Vol.7, No. 3; Winter 1987-1988.

(16) For more detailed analysis of the property tax burden see Donald Phares, *Who Pays State and Local Taxes?*, 1980. pp. 86-95.

(17) See selected bibliography in Appendix F under Tax Burdens.

(18) Congressional Budget Office, The Changing Distribution of Federal Taxes: 1975-1990; October 1987.

(19) The shifting of the employer payroll tax burden to salaries and wages is examined by alternative assumptions presented in Appendix C.

Exhibits

Exhibit 1. Revenues by Level of Government and Source of Revenue
Calendar Years 1986 and 1987

($Billions)

Revenues by Source	1986 All Governments	1986 Federal	1986 State and Local	1987 All Governments	1987 Federal	1987 State and Local
Total revenues	$1,344.5	$828.3	$516.2	$1,469.5	$916.5	$553.0
Individual income tax	430.4	353.6	76.8	482.9	396.8	86.1
Corporate income tax	88.8	66.1	22.7	116.0	88.1	27.9
Estate and gift taxes	10.1	7.1	3.0	10.7	7.4	3.3
Indirect business tax and non-tax liabilities	437.0	69.3	367.7	460.8	73.2	387.6
Sales and excise taxes and customs duties	193.4	44.4	149.0	205.9	47.3	158.6
General sales taxes	94.1	-	94.1	100.2	-	100.2
Alcoholic beverages	9.0	5.7	3.3(a)	9.0	5.8	3.2(a)
Tobacco products	9.2	4.6	4.6	9.3	4.6	4.7
Auto operations	38.0	14.1	23.9	40.6	14.5	26.1
Motor fuels	26.7	11.8	14.9	28.2	11.9	16.3
Other taxes	11.3	2.3(b)	9.0(c)	12.4	2.6(b)	9.8(c)
Telephone and telegraph service	2.4	2.4	-	2.7	2.7	-
Other sales and excise taxes	27.0	3.9	23.1	28.7	4.3	24.4
Customs duties	13.7	13.7	-	15.4	15.4	-
Property taxes(d)	116.5	-	116.5	123.9	-	123.9
Other taxes(e)	19.8	-	19.8	20.6	-	20.6
Non-taxes	107.3	24.9(f)	82.4(g)	110.4	25.9(f)	84.5(g)
Contributions for social insurance	378.2	332.2	46.0	399.1	351.0	48.1
Personal contributions	161.1	149.4	11.7	72.0	159.7	12.3
Employer contributions	217.0	182.7	34.3	227.1	191.3	35.8

(a) Includes alcohol licenses.
(b) Includes tires, tubes, tread rubber, trucks and trailers, chassis, bodies, and highway use taxes.
(c) Includes motor vehicle and operator's license taxes.
(d) Includes personal property taxes.
(e) Includes severance taxes, special business licenses, stock transfer taxes, and other miscellaneous.
(f) Includes partial operating profits of the Federal Reserve Bank deposited with Treasury.
(g) Includes tuition and education charges, health and hospital charges, fines, rents and royalties, and other special assessments.
Source: Department of Commerce, Bureau of Economic Analysis; and Tax Foundation computations.

Exhibit 2. Percent Distribution of Revenues by Level of Government And Source of Revenue

Calendar Years 1986 and 1987

Revenues by Source	1986			1987		
	All Governments	Federal	State and Local	All Governments	Federal	State and Local
Total revenues	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Individual income tax	32.0	42.7	14.9	32.9	43.3	15.6
Corporate income tax	6.6	8.0	4.4	7.9	9.6	5.0
Estate and gift taxes	0.8	0.9	0.6	0.7	0.8	0.6
Indirect business tax and non-tax liabilities	32.5	8.4	71.2	31.4	8.0	70.1
Sales and excise taxes and customs duties	14.4	5.4	28.9	14.0	5.2	28.7
General sales taxes	7.0	-	18.2	6.8	-	18.1
Alcoholic beverages	0.7	0.7	0.6	0.6	0.6	0.6
Tobacco products	0.7	0.6	0.9	0.6	0.5	0.8
Auto operations	2.8	1.7	4.6	2.8	1.6	4.7
Motor fuels	2.0	1.4	2.9	1.9	1.3	2.9
Other taxes	0.8	0.3	1.7	0.8	0.3	1.8
Telephone and telegraph service	0.2	0.3	-	0.2	0.3	-
Other sales and excise taxes	2.0	0.5	4.5	2.0	0.5	4.4
Customs duties	1.0	1.7	-	1.0	1.7	-
Property taxes	8.7	-	22.6	8.4	-	22.4
Other taxes	1.5	-	3.8	1.4	-	3.7
Non-taxes	8.0	3.0	16.0	7.5	2.8	15.3
Contributions for social insurance	28.1	40.1	8.9	27.2	38.3	8.7
Personal contributions	12.0	18.0	2.3	11.7	17.4	2.2
Employer contributions	16.1	22.1	6.6	15.5	20.9	6.5

Source: Department of Commerce, Bureau of Economic Analysis; and Tax Foundation computations.

Exhibit 2A. Percentage Distribution of Revenues By Level of Government and Source of Revenue, 1986

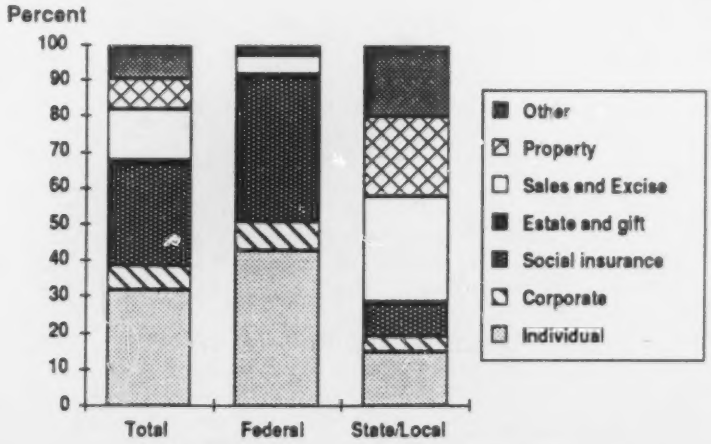


Exhibit 3. Example of the Tax Burden Under a Hypothetical Regressive, Proportional, and Progressive Tax

	Income			
	$10,000	$25,000	$50,000	$100,000
Regressive tax				
Amount of tax	$1,000	$2,000	$3,000	$4,000
Percent of income	10%	8%	6%	4%
Proportional tax				
Amount of tax	$1,000	$2,500	$5,000	$10,000
Percent of income	10%	10%	10%	10%
Progressive tax				
Amount of tax	$1,000	$3,000	$7,500	$18,000
Percent of income	10%	12%	15%	18%

Exhibit 3A. Example of Tax Amounts Paid

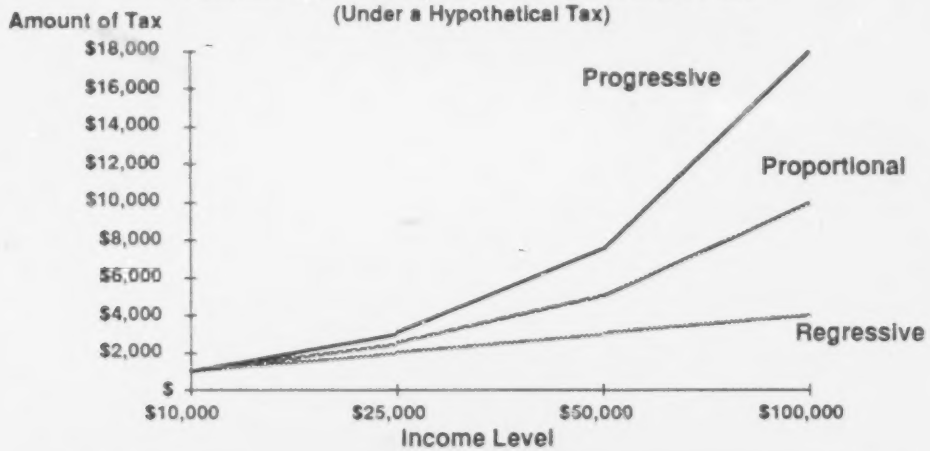


Exhibit 3B. Example of Effective Tax Rates

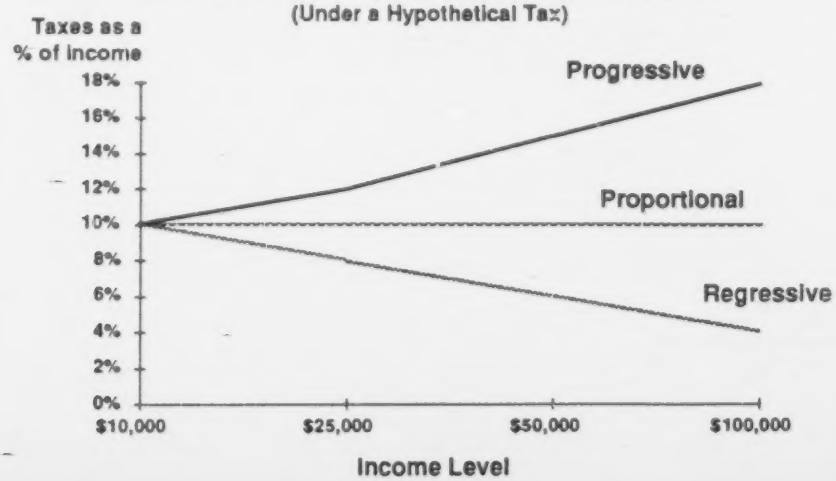


Exhibit 4. Bases for Allocation of the Tax Burden By Income Class

Standard Assumptions

Tax	Basis of Allocation*
Individual income	Reported individual tax payments
Corporate income	Half total current consumption, and half dividend income
Excises, customs, and sales:	
Alcoholic beverages	Alcoholic beverage expenditures
Tobacco	Tobacco expenditures
Telephone and telegraph	Telephone and telegraph expenditures
Auto operation	Automobile operation expenditures
Other excises, etc.	Total current consumption
Estate and Gift	Completely to the $90,000 and and over income class
Property	Half housing expenditures and half property income
Social Insurance:	
Personal contribution	Social security contributions
Employer contribution	Total current consumption

*Data Source: Published and unpublished data: U.S. Department of Labor, Bureau of Labor Statistics; 1986 Consumer Expenditure Survey results. Department of the Treasury, Internal Revenue Service, Statistics of Income Bulletin, Vol. 7, No. 3, Winter 1987-1988.

Exhibit 5. Bases of Allocation for Net National Product, Income Side

Relation of Money Income to NNP	Basis of Allocation (a)
BLS money income before taxes	BLS money income
Plus: "Other labor income"	Wages and salaries
Net rent, owner-occupied dwellings	Homeowners' housing expenditures
Services furnished by financial intermediaries	Interest receipts
Food grown and consumed on farms	Value of farm consumed food
Food furnished employees	Number of full-time earners
Difference between personal taxes in BLS survey and in national income accounts	Personal taxes
Imputed items in personal savings(b)	Homeowners' housing expenditure
Other and unaccounted	Money income
Net capital gains	Profits on sale of assets
Equals: Personal income	
Less: Transfer to persons	
Social insurance benefits	Social insurance benefits
Civilian government pensions	Private pensions
Veterans benefits	Military allotments and pensions
Relief and other	Public assistance and private relief
Net interest paid by government	Interest receipts
Net interest paid by consumers and subsidies less current surplus of government enterprises	Total current consumption
Plus: Non-personal taxes	
Corporate profits tax	Half on consumption and half on dividend income
Contributions for social insurance	
Personal contributions	Social insurance contributions
Employer contributions	Total current consumption
Indirect business taxes	Total current consumption
Undistributed corporate profits	Dividend income
Equals: Net national product	

(a) Items reported in U.S. Bureau of Labor Statistics, *Consumer Expenditure Survey 1986.*
(b) Consists largely of investment in housing.

Exhibit 5A. Components of Net National Product by Income Class, Allocation of Money Income, 1986

Income base	Income Class (Money Income Before Personal Taxes)										
	Under $10,000	$10,000-14,999	$15,000-19,999	$20,000-29,999	$30,000-39,999	$40,000-49,999	$50,000-59,999	$60,000-69,999	$70,000-89,999	$90,000 and over	Total
	($Billions)										
Money income before taxes	186.8	207.7	234.2	551.6	561.5	454.6	351.1	228.8	241.0	308.3	3,325.6
Personal income	203.5	220.4	247.8	584.6	593.2	480.9	371.1	243.7	255.8	330.1	3,531.1
Personal income plus capital gains	210.7	228.5	258.9	603.6	610.1	495.5	383.0	255.2	266.9	353.7	3,666.1
Personal income adjusted to NNP level	217.9	236.2	265.6	626.3	635.4	515.2	397.6	261.3	274.3	354.6	3,784.4

Source: U.S. Department of Commerce, Bureau of Economic Analysis; and U.S. Department of Labor, Bureau of Labor Statistics.

Exhibit 5B. Allocation of Income, Net National Product by Income Class

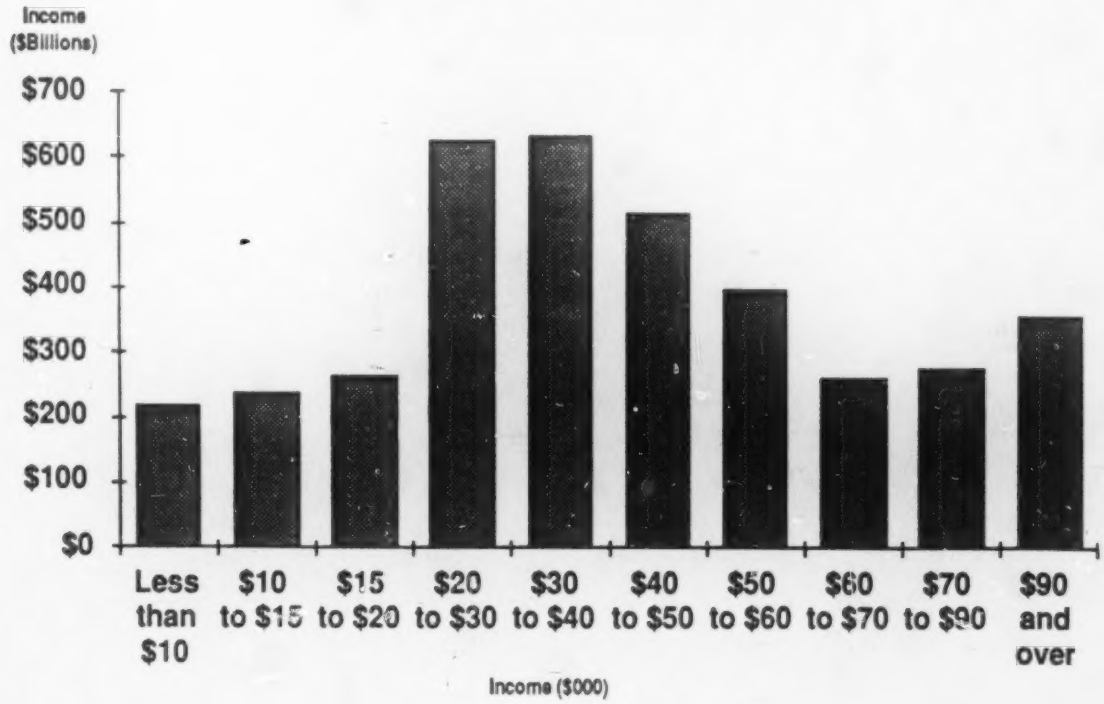
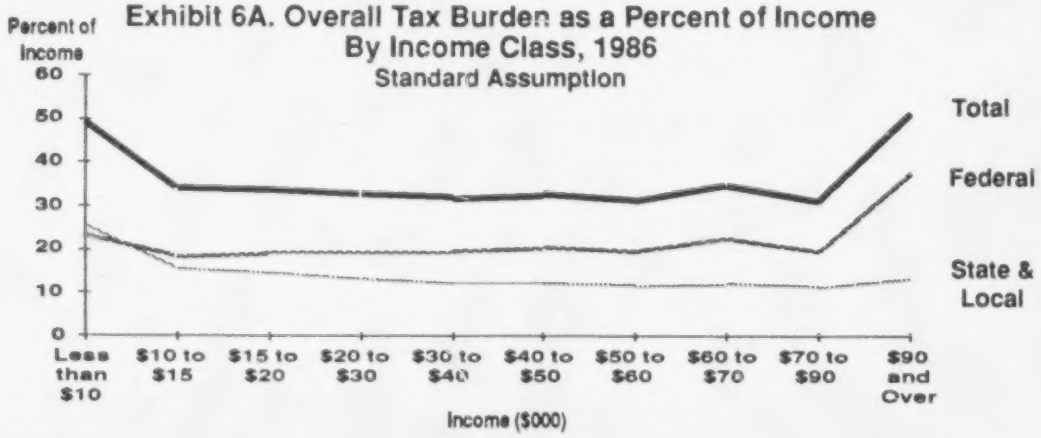


Exhibit 6. Overall Tax Burden as a Percent of Income, by Income Class, 1986

Standard Assumptions

Income Class (a)	All taxes	Federal taxes	State and local taxes
Less than $10,000	49.54%	23.74%	25.80%
$10,000 to $14,999	34.38	18.55	15.82
$15,000 to $19,999	34.04	19.28	14.76
$20,000 to $29,999	32.86	19.58	13.28
$30,000 to $39,999	32.14	19.87	12.27
$40,000 to $49,999	32.89	20.63	12.26
$50,000 to $59,999	31.44	19.60	11.84
$60,000 to $69,999	35.02	22.77	12.26
$70,000 to $89,999	31.28	19.82	11.46
$90,000 and over	51.59	37.93	13.66
All income classes	35.53	21.89	13.64

(a) Money income before personal taxes.



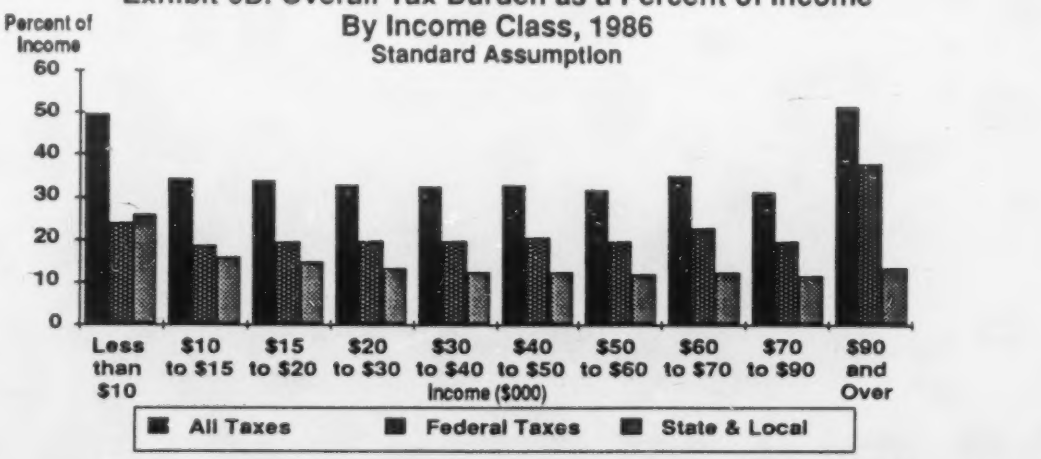


Exhibit 7. Effective Rates of Federal, State and Local Taxes by Income Class, 1986

	Income Class (Money Income Before Personal Taxes)										
	Less than $10,000	$10,000 to 14,999	$15,000 to 19,999	$20,000 to 29,999	$30,000 to 39,999	$40,000 to 49,999	$50,000 to 59,999	$60,000 to 69,999	$70,000 to 89,999	$90,000 and over	Total all Classes
	Tax Burden as a Percent of Family Income										
Federal total	23.74	18.55	19.28	19.58	19.87	20.63	19.60	22.77	19.82	37.93	21.89
Individual income tax	2.32	4.49	6.16	7.05	7.99	9.05	8.46	11.78	9.59	25.18	9.34
Corporate income tax	2.80	1.74	1.63	1.40	1.18	1.29	1.24	1.54	1.47	4.42	1.75
Estate and gift taxes	-	-	-	-	-	-	-	-	-	2.00	.19
Excises, customs, and other	4.75	2.67	2.26	1.95	1.67	1.57	1.44	1.34	1.21	.88	1.83
Alcoholic beverages	.39	.21	.19	.17	.13	.12	.11	.11	.10	.08	.15
Tobacco products	.45	.24	.18	.14	.10	.08	.07	.06	.04	.02	.12
Auto operations	.96	.59	.49	.43	.36	.32	.28	.23	.21	.11	.37
Motor fuels	.83	.51	.42	.36	.30	.26	.22	.19	.16	.09	.31
Other taxes	.13	.08	.07	.07	.06	.06	.05	.05	.04	.03	.06
Telephone and telegraph service	.22	.11	.09	.07	.05	.05	.04	.04	.03	.02	.06
Other taxes, customs	2.74	1.52	1.30	1.15	1.02	1.00	.94	.90	.83	.64	1.12
Contributions for social insurance	13.86	9.66	9.23	9.18	9.03	8.72	8.45	8.11	7.55	5.45	8.78
Personal contributions	2.08	3.14	3.65	4.24	4.64	4.42	4.39	4.24	4.00	2.70	3.95
Employer contributions	11.78	6.52	5.59	4.94	4.39	4.30	4.06	3.87	3.55	2.75	4.83
State and local total	25.80	15.82	14.76	13.28	12.27	12.26	11.84	12.26	11.46	13.66	13.64
Individual income tax	.78	1.11	1.48	1.93	2.26	2.40	2.40	2.28	2.40	2.18	2.03
Corporate income tax	.96	.60	.56	.48	.41	.44	.43	.53	.50	1.52	.60
Estate and gift taxes	-	-	-	-	-	-	-	-	-	.85	.08
Sales, excise taxes and other	10.80	6.12	5.24	4.54	3.95	3.79	3.56	3.44	3.17	3.39	4.46
General sales taxes	6.06	3.36	2.88	2.55	2.26	2.22	2.09	1.99	1.83	1.42	2.49
Alcoholic beverages	.22	.12	.11	.10	.08	.07	.07	.07	.06	.05	.09
Tobacco products	.45	.24	.18	.14	.10	.08	.07	.06	.04	.02	.12
Auto operations	1.74	1.05	.87	.72	.60	.49	.44	.38	.35	.23	.63
Motor fuels	1.05	.64	.53	.46	.38	.33	.28	.24	.21	.11	.39
Other taxes	.69	.40	.34	.26	.22	.16	.16	.14	.14	.12	.24
Other sales and excise taxes	1.49	.82	.71	.63	.55	.54	.51	.49	.45	.35	.61
Other taxes	.84	.52	.49	.42	.35	.39	.37	.46	.44	1.32	.52
Property taxes	5.58	3.59	3.63	2.84	2.50	2.54	2.52	3.21	2.81	3.76	3.08
Non-taxes	5.31	2.94	2.52	2.23	1.98	1.94	1.83	1.74	1.60	1.24	2.18
Contributions for social insurance	2.37	1.47	1.33	1.26	1.19	1.15	1.11	1.06	.98	.73	1.22
Personal contributions	.16	.25	.29	.33	.36	.35	.34	.33	.31	.21	.31
Employer contributions	2.21	1.22	1.05	.93	.82	.81	.76	.73	.67	.52	.91
Total	49.54	34.38	34.04	32.86	32.14	32.89	31.44	35.02	31.28	51.59	35.53
Individual income tax	3.10	5.60	7.63	8.97	10.25	11.45	10.86	14.06	11.98	27.36	11.37
Corporate income tax	3.76	2.34	2.19	1.87	1.59	1.73	1.67	2.07	1.98	5.94	2.35
Estate and gift taxes	-	-	-	-	-	-	-	-	-	2.85	.27
Indirect business tax and non-tax liabilities	26.45	15.31	13.65	11.57	10.09	9.84	9.35	9.73	8.79	9.27	11.55
Sales, excises, customs, and other	13.11	7.38	6.25	5.41	4.67	4.39	4.07	3.79	3.45	2.56	5.11
General sales taxes	6.06	3.36	2.88	2.55	2.26	2.22	2.09	1.99	1.83	1.42	2.49
Alcoholic beverages	.61	.33	.31	.26	.21	.19	.18	.18	.16	.13	.24
Tobacco products	.89	.46	.37	.28	.21	.17	.14	.11	.08	.04	.24
Auto operations	2.70	1.64	1.36	1.15	.96	.81	.72	.61	.56	.34	1.00
Motor fuels	1.88	1.15	.95	.82	.68	.59	.50	.42	.37	.19	.71
Other taxes	.82	.48	.41	.33	.28	.22	.22	.19	.18	.14	.30
Telephone and telegraph service	.22	.11	.09	.07	.05	.05	.04	.04	.03	.02	.06
Other sales and excise taxes	1.74	.96	.83	.73	.65	.64	.60	.57	.52	.41	.71
Customs duties	.88	.49	.42	.37	.33	.32	.30	.29	.27	.21	.36
Property taxes	5.58	3.59	3.63	2.84	2.50	2.54	2.52	3.21	2.81	3.76	3.08
Other taxes	.84	.52	.49	.42	.35	.39	.37	.46	.44	1.32	.52
Non-taxes	6.92	3.83	3.28	2.90	2.58	2.53	2.39	2.27	2.09	1.62	2.84
Contributions for social insurance	16.23	11.13	10.57	10.44	10.21	9.87	9.56	9.17	8.53	6.17	9.99
Personal contributions	2.25	3.38	3.93	4.57	5.00	4.76	4.73	4.57	4.32	2.91	4.26
Employer contributions	13.99	7.75	6.64	5.87	5.21	5.11	4.82	4.59	4.22	3.27	5.73

Exhibit 8
Individual Income Tax Burden
By Income Class, 1986

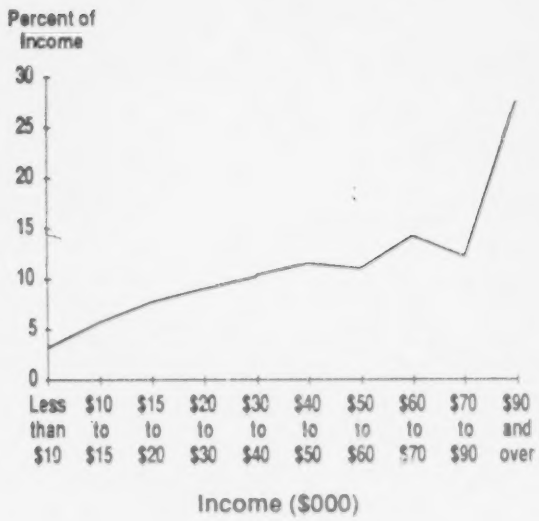


Exhibit 9
Corporate Income Tax Burden
By Income Class, 1986

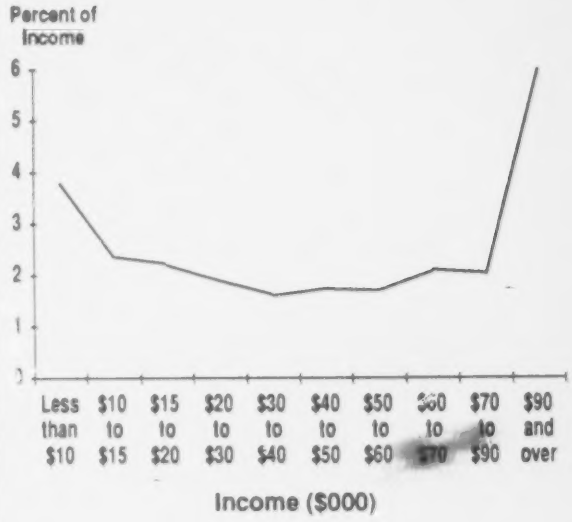


Exhibit 10
Property Tax Burden
By Income Class, 1986

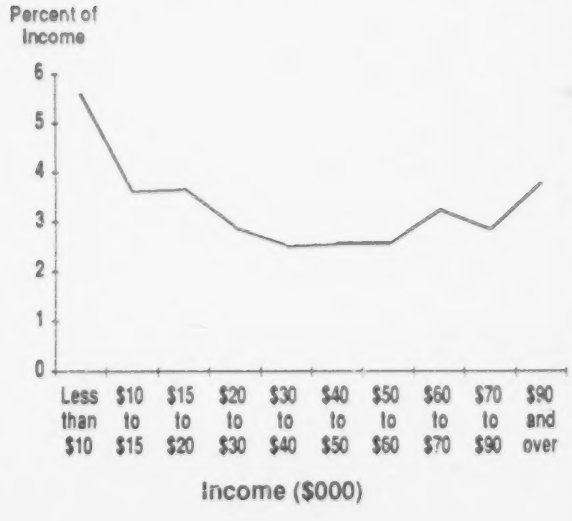


Exhibit 11
Sales and Excise Tax Burden
By Income Class, 1986

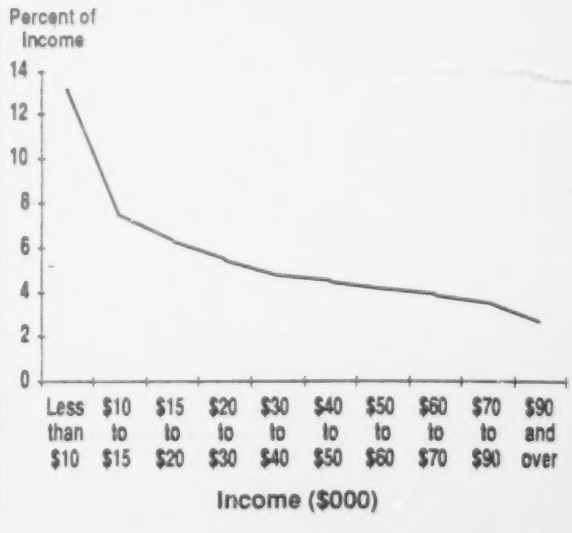


Exhibit 12. Tax Burden by Income Class, 1986
General Sales, Alcohol, Tobacco, and Gasoline

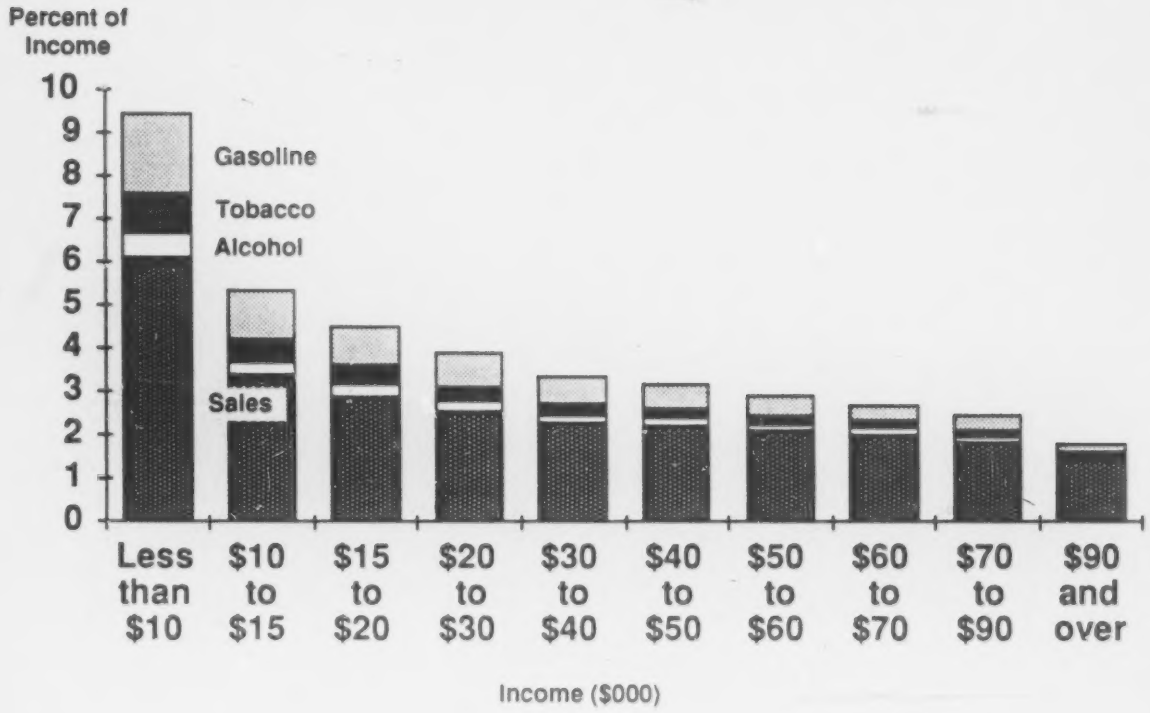
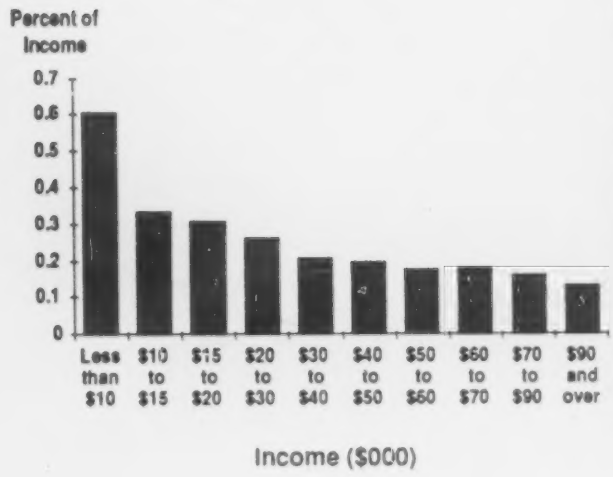
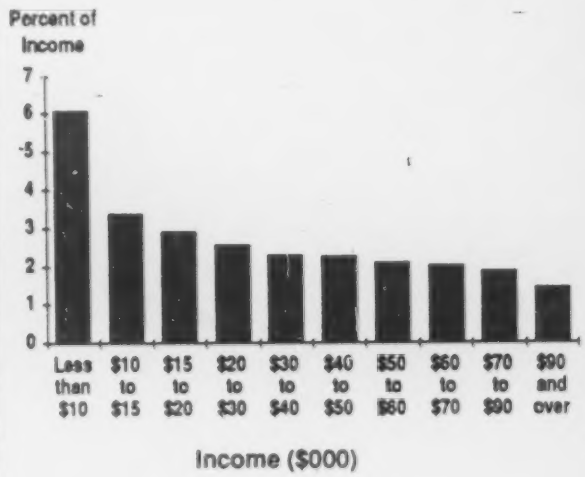


Exhibit 13. Tax Burden by Income Class and Type of Tax, 1986

Alcoholic Beverages



General Sales



Motor Fuel

Tobacco Products

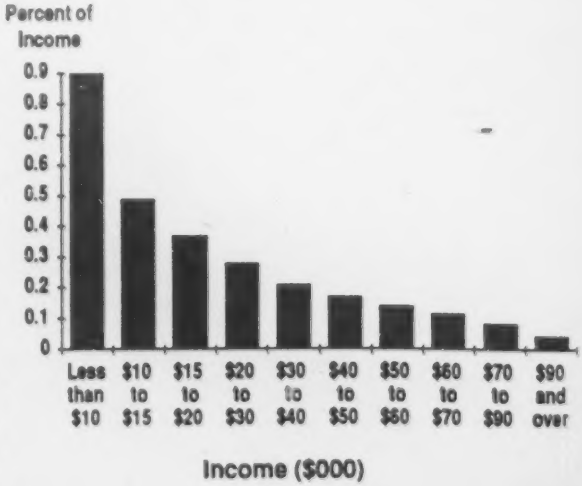


Exhibit 14. Social Insurance Tax Burden by Income Class, 1986

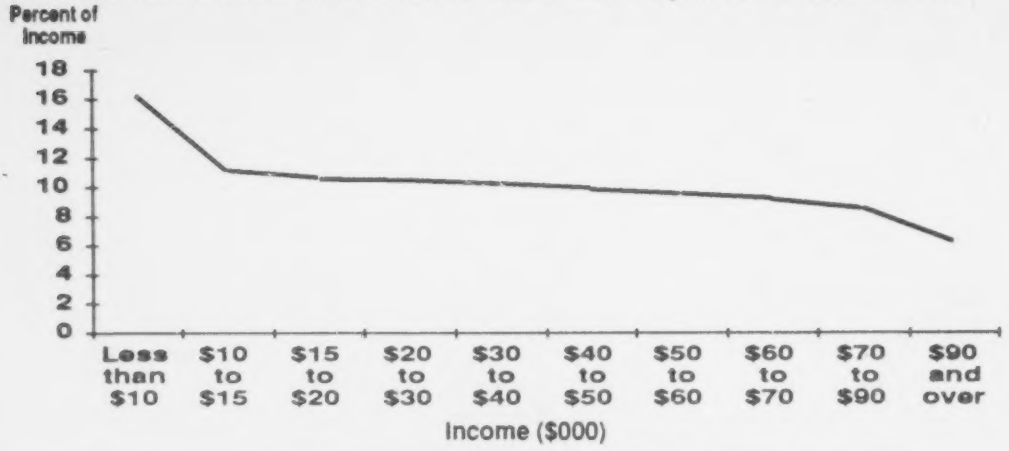


Exhibit 14A. Social Insurance Personal Contribution Tax Burden by Income Class, 1986

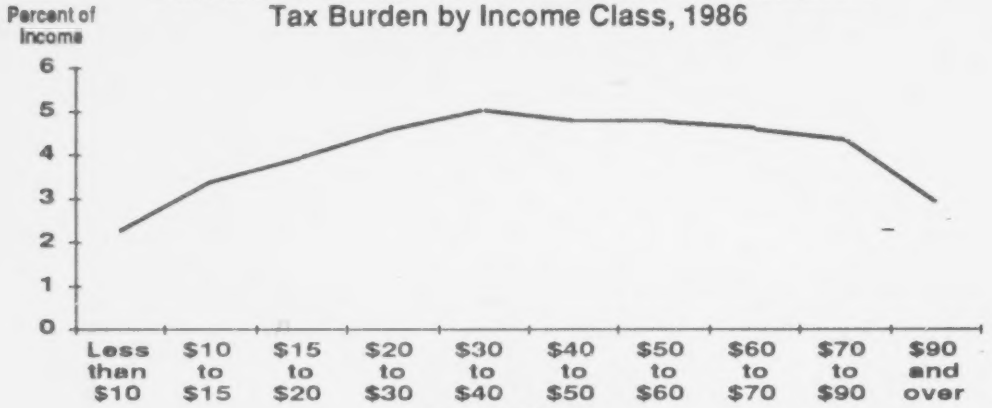


Exhibit 14B. Social Insurance Employer Contributions Tax Burden by Income Class, 1986

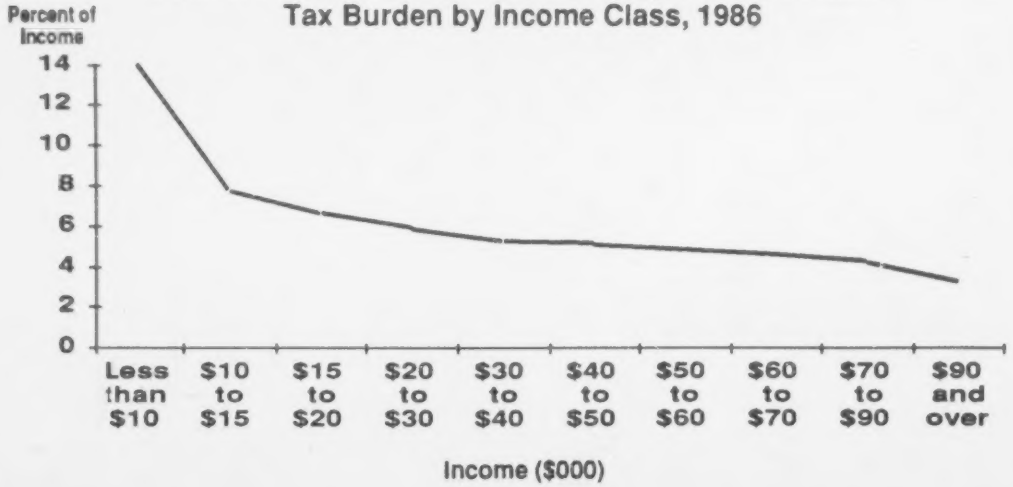


Exhibit 15. Effective Rates of Federal, State and Local Taxes by Type of Tax, High vs. Low Income Households, 1986

	I			II (a)		III (b)	
	Low	High	Average	Progressive	Regressive	Difference from average	
	Less than 10,000	$90,000 and over	Total all Classes	tax difference (High/Low)	tax difference (Low/High)	Low Income	High Income
	Effective tax rates			(+) Progressive (-) Regressive		(+) More than average (-) Less than average	
Federal total	**23.74**	**37.93**	**21.89**	**+1.60**		**+1.08**	**+1.73**
Individual income tax	2.32	25.18	9.34	+10.85		-4.03	+2.70
Corporate income tax	2.80	4.42	1.75	+1.58		+1.60	+2.53
Excises, customs, and other	4.75	.88	1.83		-5.40	+2.60	-2.08
Alcoholic beverages	.39	.08	.15		-4.88	+2.60	-1.88
Tobacco products	.45	.02	.12		-22.50	+3.75	-6.00
Auto operations	.96	.11	.37		-8.73	+2.59	-3.36
Motor fuels	.83	.09	.31		-9.22	+2.68	-3.44
Other taxes	.13	.03	.06		-4.33	+2.17	-2.00
Telephone and telegraph service	.22	.02	.06		-11.00	+3.67	-3.00
Other taxes, customs	2.74	.64	1.12		-4.28	+2.45	-1.75
Contributions for social insurance	13.86	5.45	8.78		-2.54	+1.58	-1.61
Personal contributions	2.08	2.70	3.95	+1.30		-1.90	-1.46
Employer contributions	11.78	2.75	4.83		-4.28	+2.44	-1.76
State and local total	**25.80**	**13.66**	**13.64**		**-1.89**	**+1.89**	**+1.00**
Individual income tax	.78	2.18	2.03	+2.79		-2.60	+1.07
Corporate income tax	.96	1.52	.60	+1.58		+1.60	+2.53
Sales, excise taxes and other	10.80	3.39	4.46		-3.19	+2.42	-1.32
General sales taxes	6.06	1.42	2.49		-4.27	+2.43	-1.75
Alcoholic beverages	.22	.05	.09		-4.40	+2.44	-1.80
Tobacco products	.45	.02	.12		-22.50	+3.75	-6.00
Auto operations	1.74	.23	.63		-7.57	+2.76	-2.74
Motor fuels	1.05	.11	.39		-9.55	+2.69	-3.55
Other taxes	.69	.12	.24		-5.75	+2.88	-2.00
Other sales and excise taxes	1.49	.35	.61		-4.26	+2.44	-1.74
Other taxes	.84	1.32	.52	+1.57		+1.62	+2.54
Property taxes	5.58	3.76	3.08		-1.48	+1.81	+1.22
Non-taxes	5.31	1.24	2.18		-4.28	+2.44	-1.76
Contributions for social insurance	2.37	.73	1.22		-3.25	+1.94	-1.67
Personal contributions	.16	.21	.31	+1.31		-1.94	-1.48
Employer contributions	2.21	.52	.91		-4.25	+2.43	-1.75
Total	**49.54**	**51.59**	**35.53**	**+1.04**		**+1.39**	**+1.45**
Individual income tax	3.10	27.36	11.37	+8.83		-3.67	+2.41
Corporate income tax	3.76	5.94	2.35	+1.58		+1.60	+2.53
Indirect business tax and non-tax liabilities	26.45	9.27	11.55		-2.85	+2.29	-1.25
Sales, excises, customs, and other	13.11	2.56	5.11		-5.12	+2.57	-2.00
General sales taxes	6.06	1.42	2.49		-4.27	+2.43	-1.75
Alcoholic beverages	.61	.13	.24		-4.69	+2.54	-1.85
Tobacco products	.89	.04	.24		-22.25	+3.71	-6.00
Auto operations	2.70	.34	1.00		-7.94	+2.70	-2.94
Motor fuels	1.88	.19	.71		-9.89	+2.65	-3.74
Other taxes	.82	.14	.30		-5.86	+2.73	-2.14
Telephone and telegraph service	.22	.02	.06		-11.00	+3.67	-3.00
Other sales and excise taxes	1.74	.41	.71		-4.24	+2.45	-1.73
Customs duties	.88	.21	.36		-4.19	+2.44	-1.71
Property taxes	5.58	3.76	3.08		-1.48	+1.81	+1.22
Other taxes	.84	1.32	.52	+1.57		+1.62	+2.54
Non-taxes	6.92	1.62	2.84		-4.27	+2.44	-1.75
Contributions for social insurance	16.23	6.17	9.99		-2.63	+1.62	-1.62
Personal contributions	2.25	2.91	4.26	+1.29		-1.89	-1.46
Employer contributions	13.99	3.27	5.73		-4.28	+2.44	-1.75

(a) Expressed in multiples. For example, +10.85 for Federal income tax means this tax imposes a burden 10.85 times greater for the highest income class than for the lowest. Conversely, -4.88 for Federal alcoholic beverage taxes means that these taxes are 4.88 times greater for the lowest income group than for the highest.

(b) Column III expressed in multiples compares the burden for the lowest and highest income classes for the specified tax to the average tax burden.

Appendix A

The Tax Burden By Income Class 1987 Results

This study has emphasized the 1986 tax burden distribution results because 1986 tax data and Consumer Expenditure Survey (CES) data are internally consistent for that year. However, it is possible to examine the results of the tax burden distribution based on available 1987 tax data. The estimates for 1987 are based on final 1987 tax and income data.(1) However, the 1987 tax burden distribution results should be regarded as provisional since they carry forward 1986 CES results and are not adjusted for the shifts in the *distribution of income* and associated *consumption patterns* between 1986 and 1987. Therefore, any differences in the distribution of tax burdens between 1986 and 1987 reflect only changes in total income and the tax structure.

Exhibit A1 presents the 1987 tax burden distribution by income class. The net distributional results using 1987 tax and income data are quite similar to the results for 1986 as presented in **Exhibit 7**. The total family tax burden ranges from 49.81% for the lowest income group to 54.02% for the highest. In 1986 the comparable ratios are 49.54% and 51.59%, respectively. Total government collections rose 9.3% from $1,344.5 billion in 1986 to $1,469.5 billion in 1987 (See **Exhibit 1**). The total average tax burden also rose between 1986 and 1987 from 35.53% to 36.31%. Complete details of the tax burden by income class, by level of government as well as by type of tax, are presented in **Exhibit A1**. **Exhibits A2** through **A5** present the actual dollar amounts of taxes allocated to each family income class for 1986 and 1987.

(1) U.S. Department of Commerce, Bureau of Economic Analysis; Survey of Current Business, July 1988.

(2) Total income is equivalent to net national product (NNP). Total taxes equal total government revenues.

Appendix B

The Cumulative Tax Distribution

Exhibit B1 examines the distribution of tax revenues between income classes for increasing income level aggregates and includes the percentage of all families included in each group. It differs from the primary focus of the study since it does not compare the amount of tax paid by each income group to the amount of income they earn. Instead, it focuses entirely on tax distribution, and helps to give an overall perspective on the actual dollar contribution to tax collections that families in each of these income groups contribute. A large percentage (roughly 28%) of all families fall into the lowest income class, yet only 8% of all taxes are paid by this group. The primary results of the study, however, show that the effective rate of taxation (taxes as a percent of income) for these families is quite high. This is due to the smaller amount of total income falling into this same class.

Families with incomes under $20,000, comprising nearly half of all families, paid just over one-fifth of all taxes collected. The 80% of families earning under $40,000 in income accounted for slightly more than half of all taxes, and just 37.5% of income taxes. The biggest bite to these families, particularly in the lower income classes, comes from sales and excise taxes. These taxes tend to be regressive, due to their impact upon general consumption expenditures. Assuming the consumption patterns for affected goods and services are similar across income classes, any tax based upon consumption will fall more heavily upon those who consume more than they save.

The opposite effect is found when examining taxes on corporate and personal incomes. Far more of the income tax is paid by higher-income families, according to the above table, although the differences between the corporate tax and the individual income tax are substantial at lower income levels. The reason lies in the allocation assumptions, which tend to shift the impact of corporate income taxes towards both extremes of the income distribution.

The 50% of families with income under $20,000 paid just 9% of all individual income taxes. The top-earning 7.5% of families, on the other hand, accounted for 39% of levies on individual incomes. Without the personal income tax, 32% of total government revenues, the impact of taxation on the lowest quarter of earners would be severe. As it is, these lowest 27% of families paid less than 2% of all individual income taxes collected. No data is available to estimate the effect of the Tax Reform Act of 1986 on this distribution, but the structure of the reform suggests that the under $10,000 earnings group will almost be dropped off the rolls entirely.

In general, families at the low end of the income scale made their largest contribution to government tax revenues through various sales and excise taxes, and also through the portion of the corporate income tax passed on to them as consumers. At the other end, the small amount of families falling into the highest income group contributed large portions of income tax collections, and slightly more than an even proportion of sales taxes.

Appendix C

Alternative Assumptions Results

Alternative assumptions of incidence presented in this appendix suggest the degree to which the tax burden estimates are affected by the choice of assumptions. **Exhibit C1** presents the standard assumption used in this study and the alternative assumptions that were explored. These alternative assumptions by no means exhaust the variations of assumptions that are possible. However, they do reflect conventional incidence assumptions consistent with the current body of generally accepted economic research and theory.

As seen in **Exhibit C1**, the alternative assumptions focus on three taxes — the corporate income tax, property taxes, and the employer's portion of social insurance taxes. The incidence of these taxes, particularly the corporate income tax, has not been determined conclusively, and remains a controversial issue.

The alternative corporate income tax assumptions examine varying degrees of several tax incidence views. These alternative assumptions explore shifting the corporate income tax forward in the form of higher consumer prices and backward in the form of lower dividends and/or lower salaries and wages. Therefore, the corporate income tax is allocated in various degrees to stockholders, consumers of corporate products, and corporate employees.

The alternative property tax incidence assumptions examine the degree to which owners of property and consumers in general absorb the property tax burden. Generally, property taxes are levied on the assessed value of real property, including land, homes, buildings and business equipment. The property tax on buildings, for example, could be shifted to consumers in the form of increased rents. Owner-occupants, who in effect are renters of their own homes, also bear the residential property tax. Property is another name for what economists call capital. Therefore, taxing the value of the property may have the same effect as taxing income generated by that property. The property owners could absorb a portion of the property tax in the form of lower capital incomes generated by their property holdings.

The alternative allocation assumptions for the employer's share of payroll taxes focus on the degree to which the tax is shifted forward in the form of higher consumer prices or backward in the form of lower salaries and wages. Labor may succeed in raising gross wages when a payroll tax is imposed or increased, or firms may be able to raise prices and shift part of the payroll tax to consumers. Therefore, the employer can shift the payroll tax burden in the form of lower nominal wages and/or increased consumer prices.

Exhibit C2 presents the difference in effective tax rates caused by using the most progressive and most regressive set of incidence assumptions. The overall tax burden distribution is not altered significantly except for families in the highest and lowest income classes. For the lowest income class, the absolute difference in the effective tax rate between the most progressive and most regressive set of assumptions is 15.5%; while a 10.3% difference is seen in the highest income class. For the middle income classes the difference is minimal, averaging just under 2%.

Exhibit C3 shows the results of each alternative assumption by income class and level of government. Here the exact effect that each assumption has on the tax burden distribution can be seen by type of tax. **Exhibit C4** graphically presents the alternative assumption results for the Federal corporate income tax and employer's share of social insurance taxes. **Exhibit C5** presents the alternative assumption tax burden results for the state/local corporate income tax, employer's share of social insurance taxes, and property taxes.

Appendix D

The Income Concept

Although most individuals would have no difficulty defining the composition of income in terms of their own situation, this study uses the term to encompass a far broader economic meaning.

This is due to the nature of the study itself, which attempts to measure the overall economic burden of taxation upon families based upon the income class in which they fall. To accomplish this, taxes from all sources must be imputed to families as a burden upon their income. This is because all taxes are eventually paid by individuals. Although corporations, for example, are legal entities and pay taxes, corporations are not an economic entity, at least in the sense that a corporation can enjoy a benefit of an economic action. Corporations are owned by stockholders, corporate workers, and service customers. All economic effects upon that company eventually affect either their workers in the wages they earn, their customers in the prices they pay, or their owners in the profits they make. Thus, the imputation of all taxes to the families in this study must also be accompanied by an appropriate adjustment to their income to reflect all incomes, including corporate income.

An overall income base must be chosen that fulfills this comprehensive income definition. The Bureau of Economic Analysis has estimates of income measures such as national income and personal income - both broader than a base consisting solely of money income. Unfortunately, both measures are deficient because they exclude parts of net product that are important elements of the total income base.

Personal income is defined as income received by persons from all sources. It includes wage and salary income, other labor income (employee benefits), proprietor's income, dividends and interest received, transfer payments, and rental income, while excluding contributions for social insurance. The exclusion of social insurance contributions and corporate incomes (except dividends) makes this definition of income inappropriate on an aggregate level.

National income is a net factor cost measure (the economic factors being labor and capital) and includes all incomes earned from productive services, but it does not include indirect business taxes. These taxes, however, are part of the tax base, and therefore the portion of output they represent should be included as income.

Due to these critical omissions, the use of either of these income measures would overstate the total tax burden, since all taxes; personal, business, and indirect; are included in the total tax base. A broader measure of income is needed.

Gross national product (GNP) is the most comprehensive measure of current U.S. production. Thus, it could be considered a measure of the nation's gross annual income in market terms. Net national product, however, was chosen as the income base for this study. The reason involves the study's purpose of trying to measure the burden of all taxation upon income. The study estimates the burden of all taxes being collected from businesses. Therefore, we must impute the burden of corporate taxes, as well as the portion of corporate income, to families and individuals. Undistributed corporate profits and the corporate profits tax are part of the income of families if we assume that the tax burden of the corporate tax is borne by families in the form of higher prices, lower dividends, or reduced wages and salaries. **It would not be consistent to attribute the tax burden to individuals and families without also attributing as income all portions of the national income (or output) which may be affected by those taxes.** For this reason, net national product (its income equivalent) is used as the most appropriate base against which to measure the total tax burden. Income allows the exercise of economic choices, and these economic choices are what

are primarily affected by government claims against that income.

Net national product differs from GNP in subtracting out the estimated portion of product necessary to replace capital equipment (primarily physical depreciation). Thus, this portion of income (represented by the capital consumption allowance) should not be considered burdened by government taxation. Rather, the **net** income (product) is, in economic terms, the discretionary portion of income available to make economic choices, such as investment in additional production capacity or consumer spending on goods and services. Therefore, it represents the most appropriate income base for analyzing the actual tax burden imposed on income.

Appendix E

The Consumer Expenditure Survey Explained

The primary bases of allocation used in this study were derived from the Bureau of Labor Statistics, *Consumer Expenditure Survey* (CES) results for 1985 and 1986.(1) The CES collects consumer expenditure data which provides a continuous flow of information on the buying habits of American consumers. The CES defines a consumer unit as a single person living alone or sharing a household with others but who is financially independent; members of a sample household related by blood, marriage, adoption, or other legal arrangement; or two or more persons living together who share responsibility for at least two out of three major types of expenses — food, housing, and other expenses. The family income class used in this study corresponds to the consumer unit in the CES. The terms family, household, or consumer are also used for convenience and include single person/parent households.

The survey, which is conducted by the Bureau of Labor Statistics, consists of two components: (1) a Diary survey completed by participating consumer units for two consecutive one-week periods; and (2) an Interview survey in which the expenditures of consumer units are obtained in five interviews conducted every three months. This study used the 1985 and 1986 annual averages of the Interview survey results.

The Interview survey is representative of the entire U.S. population. The Interview sample is selected on a rotating panel basis, targeted at 5,000 consumer units each quarter. The data are collected on an ongoing basis in 109 areas of the country.

The Interview survey is designed to obtain data on the types of expenditure which respondents can be expected to recall for a period of three months or longer. In general, these include relatively large expenditures, such as those for real property, automobiles, and major appliances, or expenditures which occur on a regular basis, such as rent, utilities, and gasoline. Approximately 95% of all expenditures are covered in the Interview survey. Excluded are nonprescription drugs, household supplies, and personal care items.

Survey participants record dollar amounts for goods and services purchased during the reporting period whether or not payment is made at the time of purchase. The expenditure amounts include all sales and excise taxes for all items purchased by the consumer unit for itself or others.

Limitations of the CES Data

Although the expenditure data produced by the CES are comprehensive, there exist several limitations in interpreting the data. The expenditures are averages for consumer units regardless of whether or not a particular family incurred an expense for that specific item during the survey period. An individual family may spend more or less than the average, depending on its particular characteristics. For example, a family with two smokers will spend considerably more on tobacco products than a non-smoking family.

In addition, the CES results are subject to both sampling and non-sampling errors. Sampling errors occur because the data are collected from a representative sample rather than the entire population. Non-sampling errors result from the inability or unwillingness of respondents to provide correct information, mistakes in recording data and/or other processing errors.

Despite these limitations, the CES provided the most comprehensive family expenditure data available for examining tax burdens by income class.

1. See bibliography in Appendix F under Consumer Expenditure Data. BLS publishes bulletins containing a more comprehensive description of the survey methodology with extensive data.

Appendix F

Selected Bibliography

U.S. Tax Burdens - All Levels of Government

Browning, Edgar K. and Johnson, William R. *The Distribution of the Tax Burden*. Washington, D.C.: American Enterprise Institute, 1979. 84p.

Pechman, Joseph A. *The Rich, the Poor, and the Taxes They Pay*. Boulder, CO: Westview Press, 1986. pp. 19-40.

———. *Who Paid the Taxes, 1966-85?* (Studies of Government Finance) Washington, D.C.: Brookings Institution, 1985. 84p.

Pechman, Joseph A. and Okner, Benjamin A. *Who Bears the Tax Burden?* (Studies of Government Finance) Washington, D.C.: Brookings Institution, 1974. 119p.

Reynolds, Morgan and Smolensky, Eugene. *Public Expenditures, Taxes and the Distribution of Income: The United States, 1950, 1961, 1970*. New York: Academic Press, 1977. 145p.

Tax Foundation, Inc. *Allocating Tax Burdens and Government Benefits by Income Class*. (Government Finance Brief No. 8). New York: 1967. 12p. Summary of Research Publication no. 9 (below).

———. *Allocating Tax Burdens and Government Benefits by Income Class, 1972-1973 and 1977*. (Government Finance Brief No. 31) Washington, D.C.: 1981. 31p.

———. *Allocation of the Tax Burden by Income Class*. (Project Note No. 45) New York: 1960. 24p.

———. *Tax Burdens and Benefits of Government Expenditures by Income Class, 1961 and 1965*. (Research Publication No. 9, new series) New York: 1967. 63p.

Federal Tax Burdens

Minarik, Joseph J. "Income Distribution Effects of the 1981 Tax Cuts. In National Tax Association—Tax Institute of America." *1984 Proceedings of the Seventy-seventh Annual Conference on Taxation*. Columbus, OH: 1985. pp. 31-39. Includes tax burdens 1954-1984.

Peat Marwick Main & Co. The Policy Economics Group. *An Analysis of the Regressivity of Excise Taxes*. Submitted to the Coalition Against Regressive Taxation. Washington, D.C.: 1987. 31p.

U.S. Congress. Congressional Budget Office. *The Changing Distribution of Federal Taxes: 1975-1990*. Washington, D.C.: 1987. 77p.

———. *The Changing Distribution of Federal Taxes: A Closer Look at 1980*. (Staff Working Paper) Washington, D.C.: 1988. 70p.

———. *The Distributional Effects of an Increase in Selected Federal Excise Taxes*. (Staff Working Paper) Washington, D.C.: 1987. 35p.

State and Local Tax Burdens

Phares, Donald. "State and Local Tax Burdens Across the Fifty States." *Growth and Change*, Vol. 16, No. 2, April 1985, pp. 34-42.

———. *Who Pays State and Local Taxes?* Cambridge, MA: Oelgeschlager, Gunn and Hain, 1980. 300p.

Tax Incidence Theory - All Taxes

Barrera, Heather, *Tax Incidence: a Selected Bibliography*. (CPL Bibliography No. 109.) Chicago: Council of Planning Librarians, 1983. 67p.

Davies, James and others. "Some Calculations of Lifetime Tax Incidence," *American Economic Review*, Vol. 74, No. 4, September 1984, pp.633-49.

Mieszkowski, Peter M. "Tax Incidence Theory: The Effects of Taxes on the Distribution of Income," *Journal of Economic Literature*, Vol. 7, No. 4, December 1969, pp. 1103-24.

Musgrave, Richard A. and Musgrave, Peggy B. *Public Finance in Theory and Practice*. 2nd. ed. New York: McGraw-Hill, 1976. pp.375-458. (or see 3rd. edition, 1980; 4th edition, 1984).

Musgrave, Richard A. and others. "The Distribution of Fiscal Burdens and Benefits," *Public Finance Quarterly*, Vol. 2, No. 2, July 1974, pp.259-311.

Corporation Income Tax Incidence

Ballentine, J. Gregory. *Equity, Efficiency, and the U.S. Corporation Income Tax.* (Studies in Tax Policy) Washington, D.C.: American Enterprise Institute, 1980. 111p.

Feldstein, Martin. "Imputing Corporate Tax Liabilities to Individual Taxpayers." *National Tax Journal,* Vol. 61, No. 1, March 1988, pp. 37-59.

Harberger, Arnold. "The Incidence of the Corporation Income Tax," *Journal of Political Economy,* Vol. 70, No. 3, June 1962, pp. 215-40.

———. "The State of the Corporate Income Tax: Who Pays It? Should It Be Repealed?" In Charls E. Walker and Mark A. Bloomfield, eds., *New Directions in Federal Tax Policy for the 1980s.* Cambridge, MA: Ballinger, 1983. pp. 161-70.

McClure, Charles E., Jr. "The Elusive Incidence of the Corporate Income Tax: The State Case," *Public Finance Quarterly,* Vol. 9, No. 4, October 1981, pp. 395-413.

———. "The State Corporate Income Tax: Lambs in Wolves' Clothing." In Henry J. Aaron and Michael J. Boskin, eds., *The Economics of Taxation.* Washington, D.C.: Brookings Institution, 1980. pp. 327-46.

McLure, Charles E., Jr. and Thirsk, Wayne R. "A Simplified Exposition of the Harberger Model I: Tax Incidence," *National Tax Journal,* Vol. 28, No. 1, March 1975, pp. 1-28.

Mieszkowski, Peter M. and Zodrow, George R. "The Incidence of a Partial State Corporate Income Tax," *National Tax Journal,* Vol. 38, No. 4, December 1985, pp. 489-96.

Sahni, Balbir S. and Mathew, T. *The Shifting and Incidence of the Corporation Income Tax.* Rotterdam (The Netherlands): Rotterdam University Press, 1976. 202p.

Payroll Tax Incidence

Brittain, John A. *The Payroll Tax for Social Security.* Washington, D.C.: Brookings Institution, 1972. 285p.

Dye, Richard F. *Evidence on the Effects of Payroll Tax Changes on Wage Growth and Price Inflation: A Review and Reconciliation.* (Working Paper No. 34) Washington, D.C.: Social Security Administration, 1984, 45p.

Property Tax Incidence

Aaron, Henry J. *Who Pays the Property Tax? A New View.* (Studies of Government Finance). Washington, D.C.: Brookings Institution, 1975. 110p.

Dahlby, B. G. "The Traditional View of the Incidence of the Property Tax: An Examination," *Public Finance Quarterly,* Vol. 10, No. 3, July 1982, pp. 369-83.

Heilbrun, James. "Who Bears the Burden of the Property Tax?" In The Academy of Political Science. Proceedings, Vol. 35, No. 1: *The Property Tax and Local Finance.* Ed. by C. Lowell Harriss. New York: 1983. pp. 57-71.

Mieszkowski, Peter. "The Property Tax, an Excise Tax or a Property Tax?," *Journal of Public Economics,* Vol. 1, No. 1, April 1972, pp. 73-96.

Netzer, Dick. *Economics of the Property Tax.* (Studies of Government Finance) Washington, D.C.: The Brookings Institution, 1966. 326p.

Zodrow, George R. and Mieszkowski, Peter M. "The New View of the Property Tax: A Reformulation," *Regional Science and Urban Economics,* Vol. 16, No. 3, August 1986, pp. 309-27.

Sales Tax Incidence

Browning, Edgar K. "Tax Incidence, Indirect Taxes, and Transfers," *National Tax Journal,* Vol, 38, No. 4, December 1985, pp. 525-33.

———. "Reply to Professor Due," *National Tax Journal,* Vol. 39, No. 4, December 1986, pp. 541-2.

Due, John F. "Tax Incidence, Indirect Taxes, and Transfers—A Comment," *National Tax Journal,* Vol. 39, No. 4, December 1986, pp. 539-40.

Consumer Expenditure Data

U.S. Bureau of Labor Statistics. *Consumer Expenditure Survey, 1984-1986.* Washington, D.C.: Government Printing Office. (Forthcoming Spring 1989).

Appendix Exhibits

Exhibit A1. Effective Rates of Federal, State and Local Taxes by Income Class, 1987

	Income Class (Money Income Before Personal Taxes)									
	Less than 10,000	$10,000 to 14,999	$15,000 to 19,999	$20,000 to 29,999	$30,000 to 39,999	$40,000 to 49,999	$50,000 to 59,999	$60,000 to 69,999	$70,000 to 89,999	$90,000 and over	Total all Classes
	Tax Burden as a Percent of Family Income										
Federal total	**24.21**	**19.02**	**19.83**	**20.14**	**20.44**	**21.30**	**20.24**	**23.64**	**20.56**	**40.14**	**22.65**
Individual income tax	2.43	4.71	6.46	7.39	8.38	9.51	8.89	12.36	10.06	26.42	9.81
Corporate income tax	3.49	2.17	2.03	1.74	1.47	1.60	1.55	1.92	1.83	5.51	2.18
Estate and gift taxes	—	—	—	—	—	—	—	—	—	1.95	.18
Excises, customs, and other	4.69	2.63	2.23	1.93	1.65	1.56	1.43	1.33	1.20	.87	1.81
Alcoholic beverages	.37	.20	.19	.16	.13	.12	.11	.11	.10	.08	.14
Tobacco products	.42	.23	.17	.13	.10	.08	.06	.05	.04	.02	.11
Auto operations	.92	.57	.47	.41	.35	.31	.27	.23	.20	.11	.36
Motor fuels	.78	.48	.40	.34	.28	.25	.21	.18	.16	.08	.29
Other taxes	.14	.09	.08	.07	.06	.06	.06	.05	.05	.03	.06
Telephone and telegraph service	.23	.11	.09	.07	.06	.05	.04	.04	.04	.02	.07
Other taxes, customs	2.75	1.52	1.30	1.15	1.02	1.00	.95	.90	.83	.64	1.13
Contributions for social insurance	13.61	9.52	9.11	9.08	8.93	8.63	8.37	8.03	7.46	5.39	8.67
Personal contributions	2.08	3.13	3.64	4.23	4.64	4.42	4.39	4.24	3.98	2.69	3.95
Employer contributions	11.52	6.38	5.47	4.84	4.30	4.21	3.98	3.79	3.48	2.69	4.73
State and local total	**25.60**	**15.75**	**14.73**	**13.28**	**12.30**	**12.31**	**11.89**	**12.31**	**11.53**	**13.88**	**13.67**
Individual income tax	.81	1.17	1.55	2.02	2.37	2.52	2.51	2.39	2.51	2.28	2.13
Corporate income tax	1.11	.69	.64	.55	.47	.51	.49	.61	.58	1.74	.69
Estate and gift taxes	—	—	—	—	—	—	—	—	—	.87	.08
Sales, excise taxes and other	10.73	6.08	5.20	4.51	3.92	3.76	3.53	3.41	3.14	3.34	4.43
General sales taxes	6.04	3.34	2.87	2.54	2.25	2.21	2.09	1.98	1.82	1.41	2.48
Alcoholic beverages	.20	.11	.10	.09	.07	.06	.06	.06	.05	.04	.08
Tobacco products	.43	.23	.18	.13	.10	.08	.07	.05	.04	.02	.12
Auto operations	1.78	1.07	.88	.73	.61	.50	.45	.38	.35	.23	.64
Motor fuels	1.07	.66	.54	.47	.39	.34	.29	.24	.21	.11	.40
Other taxes	.70	.41	.34	.27	.22	.16	.17	.14	.14	.12	.24
Other sales and excise taxes	1.47	.81	.70	.62	.55	.54	.51	.48	.44	.34	.60
Other taxes	.82	.51	.47	.41	.34	.38	.36	.45	.43	1.29	.51
Property taxes	5.54	3.57	3.61	2.83	2.48	2.53	2.51	3.19	2.80	3.74	3.06
Non-taxes	5.09	2.82	2.42	2.14	1.90	1.86	1.76	1.67	1.54	1.19	2.09
Contributions for social insurance	2.32	1.44	1.30	1.23	1.16	1.13	1.08	1.04	.96	.71	1.19
Personal contributions	.16	.24	.28	.33	.36	.34	.34	.33	.31	.21	.30
Employer contributions	2.16	1.19	1.02	.91	.80	.79	.74	.71	.65	.50	.88
Total	**49.81**	**34.77**	**34.56**	**33.42**	**32.75**	**33.61**	**32.13**	**35.93**	**32.08**	**54.02**	**36.31**
Individual income tax	3.25	5.87	8.01	9.41	10.75	12.03	11.40	14.75	12.58	28.70	11.93
Corporate income tax	4.59	2.85	2.67	2.29	1.94	2.11	2.04	2.53	2.41	7.25	2.87
Estate and gift taxes	—	—	—	—	—	—	—	—	—	2.82	.26
Indirect business tax and non-tax liabilities	26.05	15.09	13.46	11.41	9.96	9.71	9.23	9.60	8.68	9.14	11.39
Sales, excises, customs and other	13.03	7.33	6.21	5.38	4.65	4.38	4.06	3.78	3.45	2.56	5.09
General sales taxes	6.04	3.34	2.87	2.54	2.25	2.21	2.09	1.98	1.82	1.41	2.48
Alcoholic beverages	.57	.31	.29	.25	.20	.18	.17	.17	.15	.12	.22
Tobacco products	.84	.46	.35	.26	.20	.16	.13	.10	.08	.04	.23
Auto operations	2.70	1.63	1.36	1.15	.96	.81	.72	.61	.56	.34	1.00
Motor fuels	1.85	1.14	.94	.81	.68	.58	.50	.42	.37	.19	.70
Other taxes	.84	.49	.42	.34	.28	.22	.22	.19	.19	.15	.31
Telephone and telegraph service	.23	.11	.09	.07	.06	.05	.04	.04	.04	.02	.07
Other sales and excise taxes	1.73	.96	.82	.73	.64	.63	.60	.57	.52	.40	.71
Customs duties	.93	.51	.44	.39	.35	.34	.32	.30	.28	.22	.38
Property taxes	5.54	3.57	3.61	2.83	2.48	2.53	2.51	3.19	2.80	3.74	3.06
Other taxes	.82	.51	.47	.41	.34	.38	.36	.45	.43	1.29	.51
Non-taxes	6.65	3.68	3.16	2.79	2.48	2.43	2.30	2.19	2.01	1.55	2.73
Contributions for social insurance	15.92	10.95	10.42	10.31	10.10	9.76	9.45	9.06	8.41	6.10	9.86
Personal contributions	2.24	3.38	3.92	4.56	4.99	4.76	4.73	4.57	4.28	2.90	4.25
Employer contributions	13.68	7.58	6.50	5.75	5.10	5.00	4.73	4.50	4.13	3.20	5.61

Exhibit A2. Allocated Federal, State and Local Tax Burden by Type of Tax and Income Class, 1986

	Income Class (Money Income Before Personal Taxes)											
	Less than $5,000	$5,000 to 9,999	$10,000 to 14,999	$15,000 to 19,999	$20,000 to 29,999	$30,000 to 39,999	$40,000 to 49,999	$50,000 to 59,999	$60,000 to 69,999	$70,000 to 89,999	$90,000 and over	Total taxes
	($Millions)											($Billions)
Federal total	**$20,162**	**$31,560**	**$43,823**	**$51,210**	**$122,610**	**$126,239**	**$106,289**	**$77,932**	**$59,486**	**$54,372**	**$134,484**	**$828.3**
Individual income tax	972	4,083	10,595	16,359	44,137	50,758	46,649	33,649	30,774	26,292	89,287	353.6
Corporate income tax	2,469	3,637	4,109	4,324	8,739	7,515	6,626	4,948	4,022	4,033	15,675	66.1
Estate and gift taxes	—	—	—	—	—	—	—	—	—	—	7,100	7.1
Excises, customs, and other	4,480	5,881	6,305	6,004	12,233	10,616	8,104	5,734	3,500	3,325	3,106	69.3
Alcoholic beverages	414	426	500	517	1,047	844	635	449	298	280	298	5.7
Tobacco products	392	583	572	487	866	658	431	274	144	113	75	4.6
Auto operations	888	1,204	1,396	1,311	2,689	2,287	1,649	1,094	610	573	391	14.1
Motor fuels	762	1,047	1,205	1,118	2,269	1,919	1,348	882	488	452	302	11.8
Other taxes	126	157	191	193	420	368	301	212	122	121	89	2.3
Telephone and telegraph service	205	279	253	235	427	342	236	160	97	92	72	2.4
Other taxes, customs	2,580	3,389	3,583	3,453	7,204	6,484	5,154	3,757	2,350	2,266	2,269	42.5
Contributions for social insurance	12,241	17,959	22,814	24,523	57,502	57,351	44,910	33,602	21,189	20,723	19,316	332.2
Personal contributions	1,150	3,391	7,410	9,681	26,533	29,477	22,754	17,450	11,085	10,981	9,562	149.4
Employer contributions	11,090	14,568	15,404	14,842	30,969	27,874	22,157	16,152	10,104	9,742	9,754	182.7
State and local total	**$23,580**	**$32,646**	**$37,377**	**$39,199**	**$83,195**	**$77,993**	**$63,183**	**$47,061**	**$32,024**	**$31,430**	**$48,443**	**$516.2**
Individual income tax	722	970	2,631	3,919	12,066	14,357	12,367	9,527	5,956	6,576	7,725	76.8
Corporate income tax	848	1,249	1,411	1,485	3,001	2,581	2,275	1,699	1,381	1,385	5,383	22.7
Estate and gift taxes	—	—	—	—	—	—	—	—	—	—	3,000	3.0
Sales, excise taxes and other	10,090	13,450	14,445	13,905	28,462	25,088	19,516	14,135	8,986	8,683	12,006	168.8
General sales taxes	5,712	7,503	7,934	7,644	15,950	14,357	11,412	8,319	5,204	5,017	5,024	94.1
Alcoholic beverages	239	247	289	299	606	488	367	260	173	162	173	3.3
Tobacco products	392	583	572	487	866	658	431	274	144	113	75	4.6
Auto operations	1,605	2,186	2,472	2,302	4,506	3,809	2,520	1,758	983	950	805	23.9
Motor fuels	963	1,322	1,522	1,412	2,866	2,423	1,702	1,114	616	571	382	14.9
Other taxes	643	864	950	890	1,641	1,386	818	644	366	379	424	9.0
Other sales and excise taxes	1,402	1,842	1,948	1,877	3,916	3,524	2,801	2,042	1,277	1,232	1,233	23.1
Other taxes	740	1,089	1,231	1,295	2,618	2,251	1,985	1,482	1,205	1,208	4,695	19.8
Property taxes	4,745	7,406	8,470	9,652	17,806	15,854	13,090	10,017	8,380	7,703	13,350	116.5
Non-taxes	5,002	6,570	6,947	6,694	13,967	12,572	9,993	7,285	4,557	4,394	4,399	82.4
Contributions for social insurance	2,172	3,001	3,472	3,545	7,892	7,542	5,942	4,399	2,765	2,689	2,580	46.0
Personal contributions	90	266	580	758	2,078	2,308	1,782	1,367	868	860	749	11.7
Employer contributions	2,082	2,735	2,892	2,786	5,814	5,233	4,160	3,032	1,897	1,829	1,831	34.3

Exhibit A3. Allocated Total Tax Burden by Type of Tax and Income Class, 1986

	Income Class (Money Income before personal taxes)											
	Less than $5,000	$5,000 to 9,999	$10,000 to 14,999	$15,000 to 19,999	$20,000 to 29,999	$30,000 to 39,999	$40,000 to 49,999	$50,000 to 59,999	$60,000 to 69,999	$70,000 to 89,999	$90,000 and over	Total Taxes
	($Millions)											($Billions)
Total	**$43,741**	**$64,207**	**$81,201**	**$90,409**	**$205,805**	**$204,232**	**$169,472**	**$124,994**	**$91,510**	**$85,802**	**$182,927**	**$1,344.5**
Individual income tax	1,695	5,053	13,226	20,278	56,203	65,116	59,016	43,175	36,730	32,868	97,012	430.4
Corporate income tax	3,317	4,886	5,520	5,809	11,740	10,095	8,901	6,647	5,404	5,418	21,058	88.8
Estate and gift taxes	—	—	—	—	—	—	—	—	—	—	10,100	10.1
Indirect business tax and non-tax liabilities	24,317	33,307	36,168	36,254	72,468	64,129	50,703	37,171	25,423	24,105	32,860	437.0
Sales, Excises , custom and other	12,319	16,256	17,420	16,590	33,856	29,654	22,616	16,186	9,904	9,473	9,087	193.4
General sales taxes	5,712	7,503	7,934	7,644	15,950	14,357	11,412	8,319	5,204	5,017	5,024	94.1
Alcoholic beverages	653	673	789	816	1,653	1,332	1,002	708	471	443	471	9.0
Tobacco products	783	1,166	1,144	975	1,732	1,317	862	548	288	227	151	9.2
Auto operations	2,494	3,390	3,868	3,613	7,195	6,096	4,169	2,852	1,593	1,523	1,196	38.0
Motor fuels	1,725	2,369	2,727	2,530	5,135	4,342	3,050	1,996	1,104	1,024	684	26.7
Other taxes	769	1,021	1,140	1,083	2,060	1,754	1,119	857	489	499	513	11.3
Telephone and telegraph service	206	279	253	235	427	342	236	160	97	92	72	2.4
Other sales and excise taxes	1,639	2,153	2,276	2,193	4,577	4,119	3,274	2,387	1,493	1,440	1,441	27.0
Customs duties	832	1,092	1,155	1,113	2,322	2,090	1,661	1,211	758	730	731	13.7
Property taxes	4,745	7,406	8,470	9,652	17,806	15,854	13,090	10,017	8,380	7,703	13,350	116.5
Other taxes	740	1,089	1,231	1,295	2,618	2,251	1,985	1,482	1,205	1,208	4,695	19.8
Non-taxes	6,513	8,556	9,047	8,717	18,188	16,371	13,013	9,486	5,934	5,721	5,729	107.3
Contributions for social insurance	14,413	20,960	26,287	28,068	65,394	64,892	50,852	38,000	23,954	23,411	21,896	378.2
Personal contributions	1,240	3,657	7,991	10,439	28,611	31,785	24,536	18,816	11,954	11,841	10,310	161.1
Employer contributions	13,172	17,303	18,296	17,629	36,783	33,107	26,316	19,184	12,001	11,571	11,585	217.0

Exhibit A4. Allocated Federal, State and Local Tax Burden by Type of Tax and Income Class, 1987

	Income Class (Money Income Before Personal Taxes)											
	Less than $5,000	$5,000 to 9,999	$10,000 to 14,999	$15,000 to 19,999	$20,000 to 29,999	$30,000 to 39,999	$40,000 to 49,999	$50,000 to 59,999	$60,000 to 69,999	$70,000 to 89,999	$90,000 and over	Total taxes
	($Millions)											($Billions)
Federal total	**$21,952**	**$34,514**	**$48,065**	**$56,347**	**$134,886**	**$138,897**	**$117,286**	**$86,000**	**$66,040**	**$60,270**	**$152,235**	**$916.5**
Individual income tax	1,091	4,582	11,891	18,360	49,534	56,965	52,353	37,763	34,537	29,507	100,206	396.8
Corporate income tax	3,291	4,847	5,476	5,763	11,647	10,016	8,831	6,595	5,361	5,375	20,892	88.1
Estate and gift taxes	—	—	—	—	—	—	—	—	—	—	7,400	7.4
Excises, customs, and other	4,725	6,201	6,644	6,330	12,907	11,214	8,574	6,073	3,710	3,528	3,301	73.2
Alcoholic beverages	421	433	509	526	1,065	859	646	456	303	285	304	5.8
Tobacco products	392	583	572	487	866	658	431	274	144	113	75	4.6
Auto operations	911	1,233	1,431	1,346	2,763	2,352	1,699	1,129	630	593	405	14.5
Motor Fuels	769	1,056	1,216	1,127	2,289	1,935	1,359	889	492	456	305	11.9
Other taxes	142	177	216	218	474	416	340	240	138	136	100	2.6
Telephone and telegraph service	232	314	285	265	480	385	266	180	109	104	81	2.7
Other taxes, customs	2,769	3,638	3,846	3,706	7,733	6,960	5,533	4,033	2,523	2,433	2,436	45.6
Contributions for social insurance	12,845	18,883	24,055	25,893	60,798	60,703	47,528	35,569	22,432	21,861	20,437	351.0
Personal contributions	1,230	3,625	7,921	10,349	28,363	31,509	24,322	18,653	11,850	11,658	10,221	159.7
Employer contributions	11,615	15,258	16,134	15,545	32,435	29,194	23,206	16,916	10,582	10,203	10,216	191.3
State and local total	**$25,020**	**$34,670**	**$39,805**	**$41,835**	**$88,986**	**$83,585**	**$67,783**	**$50,513**	**$34,392**	**$33,798**	**$52,655**	**$553.0**
Individual income tax	810	1,088	2,950	4,394	13,528	16,096	13,864	10,680	6,677	7,373	8,660	86.1
Corporate income tax	1,042	1,535	1,734	1,825	3,688	3,172	2,797	2,088	1,698	1,702	6,616	27.9
Estate and gift taxes	—	—	—	—	—	—	—	—	—	—	3,300	3.3
Sales, excise taxes and other	10,720	14,293	15,353	14,774	30,243	26,663	20,728	15,012	9,534	9,213	12,662	179.2
General sales taxes	6,084	7,992	8,451	8,142	16,989	15,292	12,155	8,861	5,543	5,344	5,351	100.2
Alcoholic beverages	232	239	281	290	588	474	356	252	167	157	168	3.2
Tobacco products	400	596	584	498	885	673	440	280	147	116	77	4.7
Auto operations	1,753	2,387	2,699	2,514	4,921	4,160	2,753	1,920	1,073	1,038	879	26.1
Motor fuels	1,053	1,446	1,665	1,544	3,135	2,651	1,862	1,218	674	625	417	16.3
Other taxes	700	941	1,034	969	1,787	1,509	891	702	399	413	462	9.8
Other sales and excise taxes	1,481	1,946	2,057	1,982	4,136	3,723	2,959	2,157	1,349	1,301	1,303	24.4
Other taxes	769	1,133	1,280	1,348	2,723	2,342	2,065	1,542	1,254	1,257	4,885	20.6
Property taxes	5,049	7,880	9,013	10,270	18,946	16,869	13,928	10,659	8,916	8,196	14,205	123.9
Non-taxes	5,131	6,740	7,127	6,867	14,328	12,897	10,251	7,473	4,675	4,507	4,513	84.5
Contributions for social insurance	2,268	3,134	3,629	3,705	8,253	7,889	6,215	4,602	2,892	2,807	2,698	48.1
Personal contributions	95	279	610	797	2,184	2,427	1,873	1,437	913	898	787	12.3
Employer contributions	2,173	2,855	3,018	2,908	6,068	5,462	4,342	3,165	1,980	1,909	1,911	35.8

Exhibit A5. Allocated Total Tax Burden by Type of Tax and Income Class, 1987

	Income Class (Money Income Before Personal Taxes)											
	Less than $5,000	$5,000 to 9,999	$10,000 to 14,999	$15,000 to 19,999	$20,000 to 29,999	$30,000 to 39,999	$40,000 to 49,999	$50,000 to 59,999	$60,000 to 69,999	$70,000 to 89,999	$90,000 and over	Total taxes
	($Millions)											($Billions)
Total	**$46,972**	**$69,184**	**$87,870**	**$98,182**	**$223,872**	**$222,482**	**$185,070**	**$136,514**	**$100,432**	**$94,068**	**$204,890**	**$1,469.5**
Individual income tax	1,901	5,670	14,840	22,753	63,062	73,061	66,218	48,444	41,214	36,880	108,866	482.9
Corporate income tax	4,333	6,382	7,210	7,589	15,335	13,187	11,627	8,683	7,059	7,077	27,509	116.0
Estate and gift taxes	—	—	—	—	—	—	—	—	—	—	10,700	10.7
Indirect business tax and non-tax liabilities	25,624	35,113	38,134	38,240	76,421	67,639	53,479	39,215	26,834	25,443	34,680	460.8
Sales, excises, customs, and other	13,102	17,294	18,530	17,651	36,033	31,580	24,094	17,251	10,557	10,102	9,694	205.9
General sales taxes	6,084	7,992	8,451	8,142	16,989	15,292	12,155	8,861	5,543	5,344	5,351	100.2
Alcoholic beverages	653	673	789	816	1,653	1,332	1,002	708	471	443	471	9.0
Tobacco products	792	1,179	1,157	985	1,751	1,331	871	554	291	229	152	9.3
Auto operations	2,664	3,621	4,130	3,859	7,684	6,512	4,452	3,049	1,704	1,630	1,284	40.6
Motor fuels	1,822	2,502	2,881	2,672	5,424	4,586	3,221	2,108	1,166	1,081	722	28.2
Other taxes	842	1,118	1,249	1,188	2,261	1,926	1,231	942	537	549	562	12.4
Telephone and telegraph service	232	314	285	265	480	385	266	180	109	104	81	2.7
Other sales and excise taxes	1,742	2,288	2,420	2,332	4,865	4,379	3,481	2,537	1,587	1,530	1,532	28.7
Customs duties	935	1,228	1,298	1,251	2,610	2,350	1,868	1,361	852	821	822	15.4
Property taxes	5,049	7,880	9,013	10,270	18,946	16,869	13,928	10,659	8,916	8,196	14,205	123.9
Other taxes	769	1,133	1,280	1,348	2,723	2,342	2,065	1,542	1,254	1,257	4,885	20.6
Non-taxes	6,703	8,805	9,311	8,971	18,718	16,848	13,392	9,763	6,107	5,888	5,896	110.4
Contributions for social insurance	15,113	22,017	27,683	29,599	69,050	68,591	53,743	40,171	25,324	24,668	23,135	399.1
Personal contributions	1,324	3,904	8,531	11,146	30,547	33,936	26,196	20,090	12,762	12,556	11,008	172.0
Employer contributions	13,789	18,112	19,152	18,453	38,503	34,656	27,547	20,081	12,562	12,112	12,127	227.1

Exhibit B1. Cumulative Tax Burdens for All Families by Income Class, 1986

Type of tax	Income Class: Less than $10,000	Under $20,000	Under $40,000	Under $60,000	Total
Number of Families	**23,114**	**42,194**	**66,602**	**77,162**	**82,755**
Percent of Total	27.9%	51.0%	80.5%	93.2%	100.0%
Total	**8.0%**	**20.8%**	**51.3%**	**73.2%**	**100.0%**
Individual income tax	1.6	9.4	37.5	61.3	100.0
Corporate income tax	9.2	22.0	46.6	64.1	100.0
Estate and gift taxes	-	-	-	-	100.0
Sales, excises, and other	14.8	32.4	65.2	85.3	100.0
General sales taxes	14.0	30.6	62.8	83.8	100.0
Alcoholic beverages	14.7	32.5	65.7	84.6	100.0
Tobacco products	21.2	44.3	77.4	92.8	100.0
Other	15.1	33.7	67.7	87.0	100.0
Property taxes	10.4	26.0	54.9	74.7	100.0
Other taxes	9.2	22.0	46.6	64.1	100.0
Non-taxes	14.0	30.6	62.8	83.8	100.0
Social insurance contributions	9.4	23.7	58.2	81.7	100.0

Exhibit C1. Alternative Bases for Allocation of the Tax Burden by Income Class

Tax	Basis of Allocation*
Corporate Income Taxes	
STANDARD	1/2 Current Consumption 1/2 Dividend Income
Alternative A	1/2 Current Consumption 1/4 Dividend Income 1/4 Salaries and Wages
Alternative B	1/2 Dividend Income 1/2 Salaries and Wages
Alternative C	Dividend Income
Property Taxes	
STANDARD	1/2 Housing Expenditures 1/2 Property Income in General
Alternative D	Property Income in General
Alternative E	1/2 Property Income in General 1/4 Current Consumption (other than housing) 1/4 Housing Expenditures
Social Insurance Taxes - Employer Contributions	
STANDARD	Current Consumption
Alternative F	1/2 Current Consumption 1/2 Salaries and Wages
Alternative G	Salaries and Wages

*Data Source: Published and unpublished data: U.S. Department of Labor, Bureau of Labor Statistics; 1986 Consumer Expenditure Survey results. Department of the Treasury, Internal Revenue Service, Statistics of Income, Winter 1987-1988.

Exhibit C2. Overall Tax Burdens by Income Class, 1986
Progressive vs. Regressive Assumptions

Income Class (a)	Most Progressive (b)	Most Regressive (c)	Absolute Difference
Less than $10,000	33.64%	49.14%	15.50
$10,000 to $14,999	29.28	34.40	5.12
$15,000 to $19,999	31.86	34.11	2.25
$20,000 to $29,999	32.17	33.16	.99
$30,000 to $39,999	32.58	32.57	.01
$40,000 to $49,999	33.89	33.26	.63
$50,000 to $59,999	32.91	31.81	1.10
$60,000 to $69,999	37.35	35.04	2.31
$70,000 to $89,999	34.25	31.40	2.85
$90,000 and over	59.74	49.43	10.31

(a) Money income before personal taxes.

(b) See exhibit C1. Corporate income tax = alternative C; social insurance - employer share = alternative G; property taxes = alternative D.

(c) See exhibit C1. Corporate income tax = alternative A; social insurance - employer share =standard; property taxes = alternative E.

Exhibit C2-1. Total Tax Burden by Income Class, 1986
Progressive vs. Regressive Assumptions

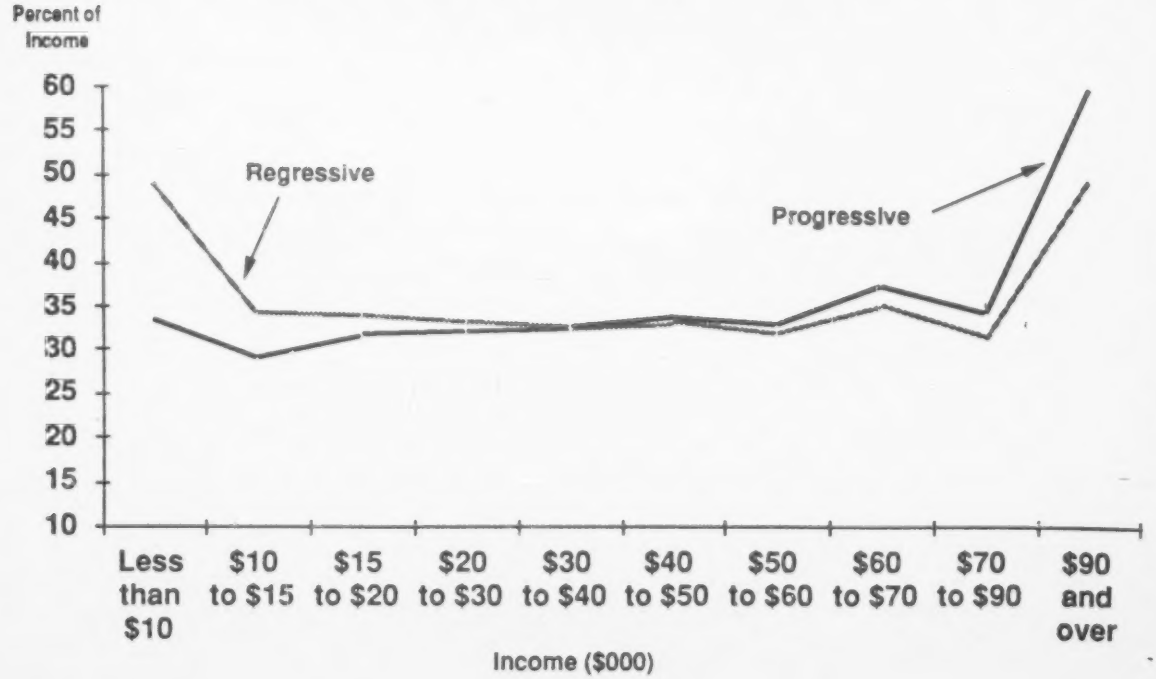


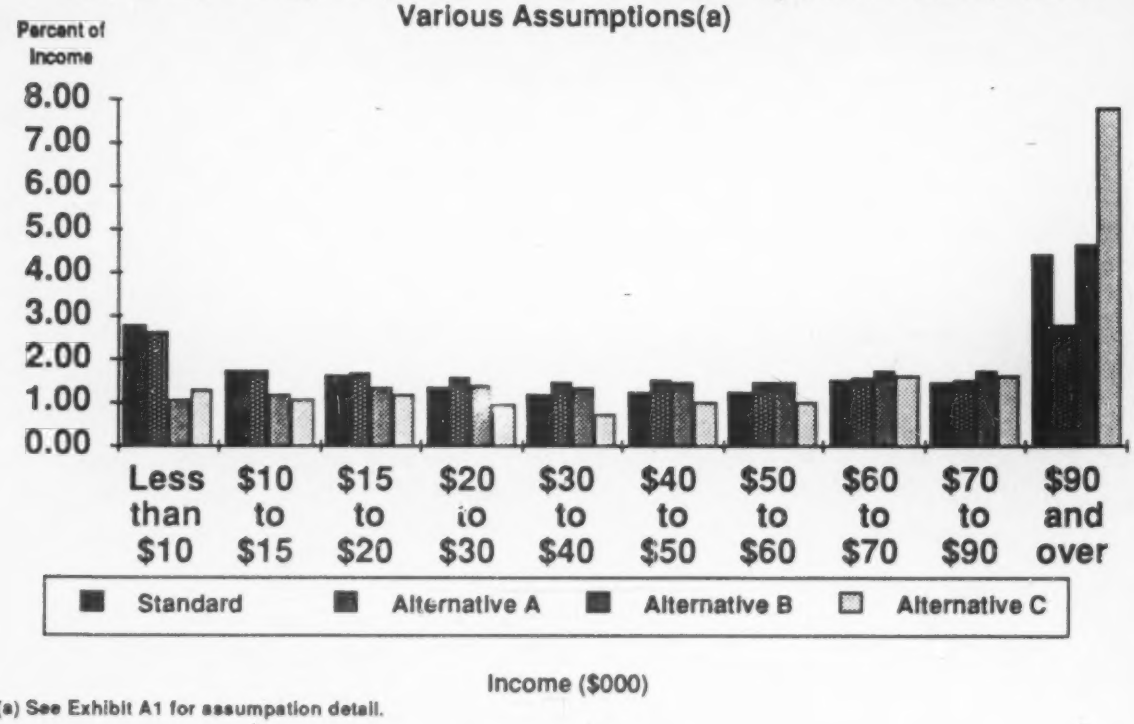
Exhibit C3. Effective Rates of Federal, State and Local Taxes, 1986

Standard and Alternative Assumptions (a)

	Income Class (Money Income Before Personal Taxes)										
	Less than $10,000	$10,000 to 14,999	$15,000 to 19,999	$20,000 to 29,999	$30,000 to 39,999	$40,000 to 49,999	$50,000 to 59,999	$60,000 to 69,999	$70,000 to 89,999	$90,000 and over	Total all Clases
Federal											
Corporate income tax											
Standard assumption	2.80	1.74	1.63	1.40	1.18	1.29	1.24	1.54	1.47	4.42	1.75
Alternative A	2.67	1.77	1.70	1.60	1.47	1.53	1.49	1.58	1.53	2.83	1.75
Alternative B	1.09	1.19	1.38	1.41	1.36	1.51	1.50	1.77	1.78	4.66	1.75
Alternative C	1.34	1.12	1.23	1.00	.78	1.02	1.02	1.68	1.66	7.85	1.75
Social security - employer share											
Standard assumption	11.78	6.52	5.59	4.94	4.39	4.30	4.06	3.87	3.55	2.75	4.83
Alternative F	7.04	5.00	4.90	4.98	4.88	4.92	4.78	4.51	4.42	3.42	4.83
Alternative G	2.29	3.48	4.21	5.01	5.37	5.53	5.50	5.15	5.28	4.09	4.83
State and local											
Corporate income tax											
Standard assumption	.96	.60	.56	.48	.41	.44	.43	.53	.50	1.52	.60
Alternative A	.92	.61	.58	.55	.51	.53	.51	.54	.53	.97	.60
Alternative B	.37	.41	.47	.48	.47	.52	.52	.61	.61	1.60	.60
Alternative C	.46	.38	.42	.34	.27	.35	.35	.58	.57	2.69	.60
Property taxes											
Standard assumption	5.58	3.59	3.63	2.84	2.50	2.54	2.52	3.21	2.81	3.76	3.08
Alternative D	2.91	2.94	3.63	2.61	2.30	2.43	2.59	3.82	3.47	5.72	3.08
Alternative E	5.35	3.56	3.61	2.87	2.53	2.57	2.56	3.17	2.84	3.75	3.08
Social security - employer share											
Standard assumption	2.21	1.22	1.05	.93	.82	.81	.76	.73	.67	.52	.91
Alternative F	1.32	.94	.92	.93	.92	.92	.90	.85	.83	.64	.91
Alternative G	.43	.65	.79	.94	1.01	1.04	1.03	.97	.99	.77	.91

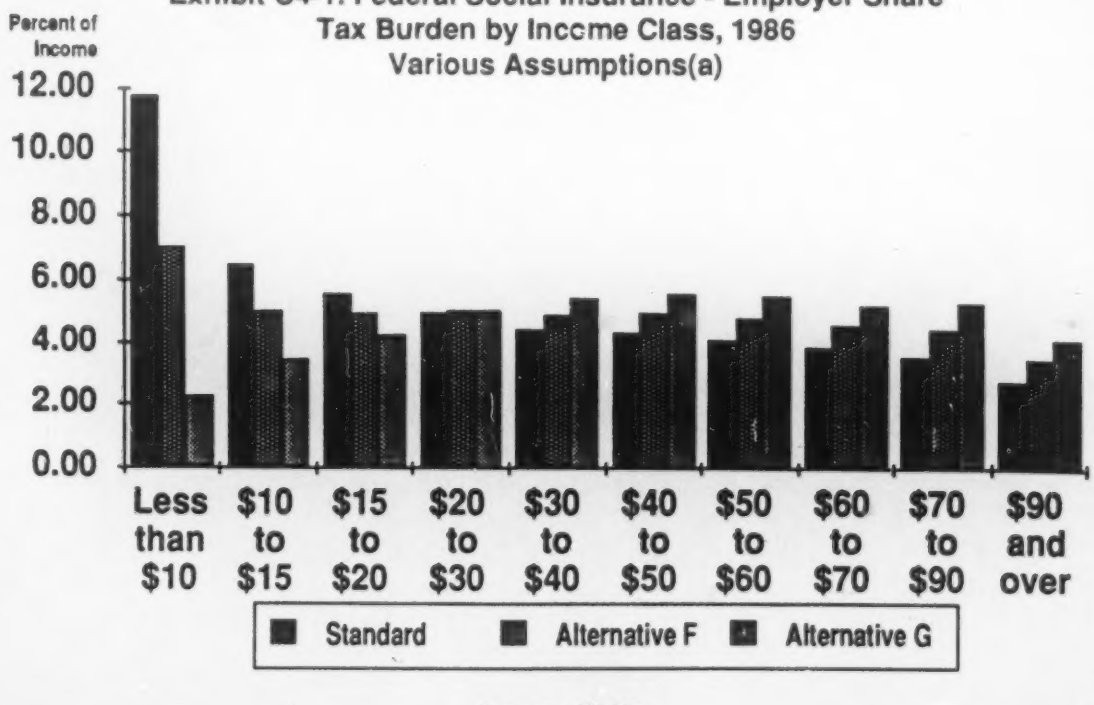
(a) See exhibit C1 for assumption detail.

Exhibit C4. Federal Corporate Income Tax Burden by Income Class, 1986
Various Assumptions(a)



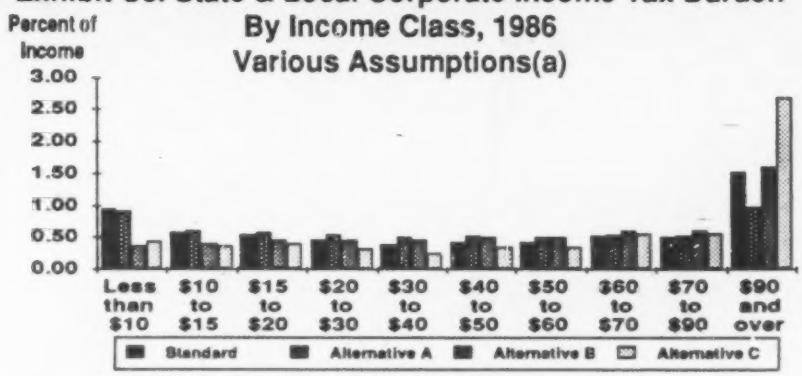
(a) See Exhibit A1 for assumpation detail.

Exhibit C4-1. Federal Social Insurance - Employer Share Tax Burden by Income Class, 1986
Various Assumptions(a)



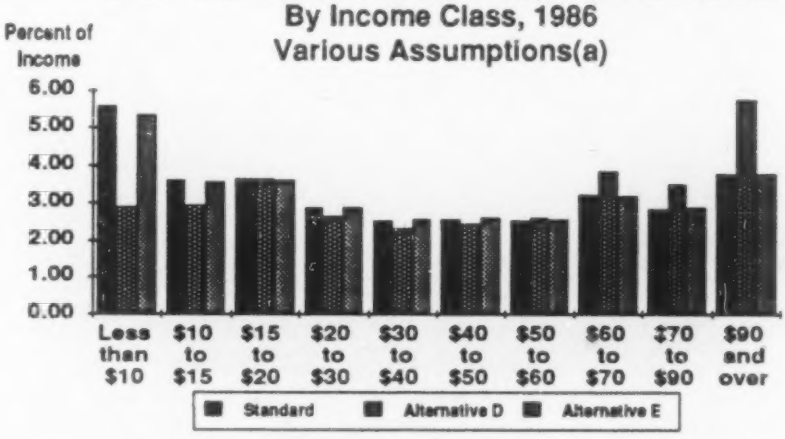
(a) See Exhibit C1 for assumption detail.

Exhibit C5. State & Local Corporate Income Tax Burden By Income Class, 1986 Various Assumptions(a)



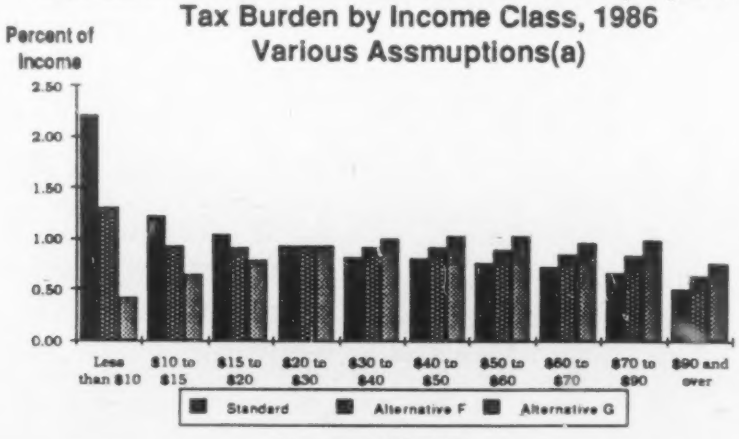
(a) See Exhibit C1 for assumption detail.

Exhibit C5-2. State & Local Property Tax Burden By Income Class, 1986 Various Assumptions(a)



(a) See Exhibit C1 for assumption detail.

Exhibit C5-3. State & Local Insurance - Employer Share Tax Burden by Income Class, 1986 Various Assmuptions(a)



(a) See Exhibit C1 for assumption detail.